

## REGIONAL SAMPLE CONTROL CENTER

231779

**TDF#**

**CASE #: 37088**

**SAMPLER: W-RST**

2

34

## PCBs

Robert J. 1/30/08 3<sup>10</sup>pm  
 IL Rosenberg 2-4-08 10<sup>45</sup>Am R. Annun 2/4/08 10<sup>45</sup>  
 R. Annun 2-5-08 2<sup>50</sup>pm Robert J. 2/5/08 2<sup>50</sup>pm

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ0

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-02A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7943F.D/E2G7943R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ3

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-01A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7942F.D/E2G7942R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J79

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-03A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3518F.D/E1G3518R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J80

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-04A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3519F.D/E1G3519R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007

Extraction: (Type) SEPF Date Extracted: 12/24/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J81

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-05A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3520F.D/E1G3520R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J82

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-06A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3521F.D/E1G3521R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J83

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-07A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3522F.D/E1G3522R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007

Extraction: (Type) SEPF Date Extracted: 12/24/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J84

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-08A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3523F.D/E1G3523R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J85

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-09A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3524F.D/E1G3524R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J86

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-10A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3525F.D/E1G3525R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J87

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-11A  
Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3526F.D/E1G3526R.D  
% Moisture: Decanted: (Y/N) N Date Received: 12/20/2007  
Extraction: (Type) SEPF Date Extracted: 12/24/2007  
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J88

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-12A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3527F.D/E1G3527R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J89

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-13A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3528F.D/E1G3528R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J90

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HZ0  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1870-14A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3529F.D/E1G3529R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 01/04/2008  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HJ6

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-01A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3352F.D/E1G3352R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HJ7

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-02A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3353F.D/E1G3353R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HJ8

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-03A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3354F.D/E1G3354R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HJ9

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-04A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3355F.D/E1G3355R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/11/2007

Extraction: (Type) SEPF Date Extracted: 12/14/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK0

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-05A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3356F.D/E1G3356R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/11/2007

Extraction: (Type) SEPF Date Extracted: 12/14/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK1

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-06A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3357F.D/E1G3357R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK2

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-07A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3360F.D/E1G3360R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK3

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-08A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3361F.D/E1G3361R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/11/2007

Extraction: (Type) SEPF Date Extracted: 12/14/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK4

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-09A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3362F.D/E1G3362R.D

% Moisture: Decanted: (Y/N) N Date Received: 12/11/2007

Extraction: (Type) SEPF Date Extracted: 12/14/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK5

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-10A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3363F.D/E1G3363R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK6

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-11A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3364F.D/E1G3364R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/11/2007

Extraction: (Type) SEPF Date Extracted: 12/14/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK7

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-12A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3365F.D/E1G3365R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HK8

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-13A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E1G3366F.D/E1G3366R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/11/2007  
 Extraction: (Type) SEPF Date Extracted: 12/14/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/30/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY6

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-14A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7935F.D/E2G7935R.D  
 % Moisture:            Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY7

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-15A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7936F.D/E2G7936R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY8

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-16A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7937F.D/E2G7937R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY9

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-17A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7938F.D/E2G7938R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ1

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-19A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7940F.D/E2G7940R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/14/2007  
 Extraction: (Type) SEPF Date Extracted: 12/19/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ2

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-20A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7941F.D/E2G7941R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/14/2007

Extraction: (Type) SEPF Date Extracted: 12/19/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ4

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: 1508.0 SDG No.: B4HJ6

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1828-18A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G7939F.D/E2G7939R.D

% Moisture:            Decanted: (Y/N) N Date Received: 12/14/2007

Extraction: (Type) SEPF Date Extracted: 12/19/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/26/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:            Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4JD2

RB

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030  
 Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: SDG No.: B4JD2  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1915-01A  
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G8031F.D/E2G8031R.D  
 % Moisture: Decanted: (Y/N) N Date Received: 12/20/2007  
 Extraction: (Type) SEPF Date Extracted: 12/24/2007  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/27/2007  
 Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y  
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/L	Q
12674-11-2	Aroclor-1016		1.0	U
11104-28-2	Aroclor-1221		1.0	U
11141-16-5	Aroclor-1232		1.0	U
53469-21-9	Aroclor-1242		1.0	U
12672-29-6	Aroclor-1248		1.0	U
11097-69-1	Aroclor-1254		1.0	U
11096-82-5	Aroclor-1260		1.0	U
37324-23-5	Aroclor-1262		1.0	U
11100-14-4	Aroclor-1268		1.0	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4JJ2

RB

Lab Name: MITKEM LABORATORIES Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 37088 Mod. Ref No.: SDG No.: B4JD2

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: F1915-02A

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E2G8032F.D/E2G8032R.D

% Moisture: Decanted: (Y/N) N Date Received: 12/21/2007

Extraction: (Type) SEPF Date Extracted: 12/24/2007

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 12/27/2007

Injection Volume: 1.0 (uL) GPC Factor: 1.00 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: UG/L (ug/L or ug/Kg)	Q
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U
37324-23-5	Aroclor-1262	1.0	U
11100-14-4	Aroclor-1268	1.0	U

ATTACHMENT 1  
SOM01.2/Aroclors  
SOP NO. HW-37

Page 1 of 4

Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37088  
LABORATORY: MITKEM

SDG No.: B4HZ0  
SITE: CORNELL-DUBLIER  
ANALYSIS: 14(W) PCB

DATA ASSESSMENT

The current SOP HW-37 (Revision 1) August, 2007, USEPA Region II Data Validation SOP for Statement of Work SOM01.2 for evaluating organic data have been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's  
Signature: David Rosenberg

Date: January 31, 2008

Verified By: R. Armauer

Date: 02/05/2008

**1. HOLDING TIME:**

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

The following Aroclor samples were extracted outside both Technical, and Contractual criteria. Hits are qualified "J"; and non-detects are qualified "UJ".

No problems found.

**2. SURROGATES**

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

No problems found for this qualification.

**3. MATRIX SPIKE/SPIKE DUPLICATE, LCS (Lab Control Sample):**

The LCS data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The LCS may be used in conjunction with other QC criteria for additional qualification of data.

No qualifications based on LCS or MS/MSD

**4. BLANK CONTAMINATION:**

Quality assurance (QA) blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects, "U".

The following analytes in the sample shown were qualified with "U" for these reasons:

**A) Method blank contamination:**

No problems found for this qualification

**B) Field or rinse blank contamination:**

No problems found for this qualification. There is no associated field blank with these samples.

**5. CALIBRATION:**

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

**A) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):**

For the PCB fraction, if %RSD exceeds 20% for any analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ". The following analytes in the sample shown were qualified for %RSD.

No problems found.

**B) The following Aroclor samples are associated with a closing CCV in which the % D of calibration factors exceeded 50%. Hits are qualified "J" and non-detects are qualified "UJ".**

No problems found.

**6. COMPOUND IDENTIFICATION:**

**A) PCB Fraction:**

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

The following pesticide samples have percent difference (%D) between Columns, which exceeds primary criteria. Hits are qualified "J".

No problems found.

**10. CONTRACT PROBLEMS NON-COMPLIANCE:**

No problems found.

11. FIELD DOCUMENTATION: No problems found.

12. OTHER PROBLEMS: NOTE: The water samples were analyzed after filtration through a 0.45 um filter to remove all particulates. Since Aroclors are not soluble in water, it is not surprising that the samples were all nondetect. It is not known whether the filters were analyzed.

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.

No problems found.

ATTACHMENT 1  
SOM01.2/Aroclors  
SOP NO. HW-37

Page 1 of 4

### Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37088  
LABORATORY: MITKEM

SDG No.: B4HJ6  
SITE: CORNELL-DUBLIER  
ANALYSIS: 20(W) PCB

### DATA ASSESSMENT

The current SOP HW-37 (Revision 1) August, 2007, USEPA Region II Data Validation SOP for Statement of Work SOM01.2 for evaluating organic data have been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material, "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's  
Signature: David Rosenberg

Date: January 31, 2008

Verified By: R. Amore

Date: 02/05/2008

**1. HOLDING TIME:**

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

The following Aroclor samples were extracted outside both Technical, and Contractual criteria.  
Hits are qualified "J", and non-detects are qualified "UJ".

No problems found.

**2. SURROGATES**

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

No problems found for this qualification.

**3. MATRIX SPIKE/SPIKE DUPLICATE, LCS (Lab Control Sample):**

The LCS data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The LCS may be used in conjunction with other QC criteria for additional qualification of data.

No qualifications based on LCS or MS/MSD

**4. BLANK CONTAMINATION:**

Quality assurance (QA) blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects, "U".

The following analytes in the sample shown were qualified with "U" for these reasons:

**A) Method blank contamination:**

No problems found for this qualification

**B) Field or rinse blank contamination:**

No problems found for this qualification. There is no associated field blank with these samples.

**5. CALIBRATION:**

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

**A) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):**

For the PCB fraction, if %RSD exceeds 20% for any analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ". The following analytes in the sample shown were qualified for %RSD.

No problems found.

**B) The following Aroclor samples are associated with a closing CCV in which the % D of calibration factors exceeded 50%. Hits are qualified "J" and non-detects are qualified "UJ".**

No problems found.

**6. COMPOUND IDENTIFICATION:**

**A) PCB Fraction:**

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

The following pesticide samples have percent difference (%D) between Columns, which exceeds primary criteria. Hits are qualified "J".

No problems found.

**10. CONTRACT PROBLEMS NON-COMPLIANCE:**

No problems found.

11. **FIELD DOCUMENTATION:** No problems found.

12. **OTHER PROBLEMS:** NOTE: The water samples were analyzed after filtration through a 0.45 um filter to remove all particulates. Since Aroclors are not soluble in water, it is not surprising that the samples were all nondetect. It is not known whether the filters were analyzed.

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.

No problems found.

SOP HW-37  
Revision 1  
August 2007

SOP NO. HW-37/Aroclor  
Validation of Data  
USEPA Contract Laboratory Program  
Statement of Work for Organic Analysis of Low/Medium  
Concentration of Aroclor Organic Compounds SOM01.2



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8/2/07

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Hazardous Waste Support Branch

8/2/07

8/2/07

Final Review

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## INTRODUCTION

### Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.2, February 2007". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, July 2007". This document attempts to cover technical problems specific to low/Medium concentration of Aroclor compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

### Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

### Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UU - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

#### Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - For Dieldrin/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

#### Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.2 and National Functional Guidelines mentioned above.

STANDARD OPERATING PROCEDURE

USEPA Region II  
Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007  
SOP HW-37/Aroclor, Revision 1

YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37079 LAB: MTKEM  
SITE NAME: Cornell Lubber SDG No(s): B4HZ0, B4HJ6

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples?

☒ 1      

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples?

☒ 1      

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package?

   ☒ 1      

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was SMO/CLASS CCS checklist included with the package?

☒ 1

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YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report?   1

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

## 3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present?   1

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?  
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken?   1

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?  
Column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights.   1

- 3.5 Did the contractor record the temperature cooler on the Form DC-1, Item 9 - Cooler temperature, and in the SDG Narrative?   1

- 3.6 Does the Case Narrative contain the "verbal statement" (page B-12, section 2.5.1 of the   1

ACTION:

If "NO", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-compliance section of the Data Assessment.

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YES NO N/A

### 4.0 Data Validation Checklist

4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative?

☒ ☐ ☐

b. Are all forms and copies legible?

☒ ☐ ☐

c. Assembled in the order set forth in the SOW?

☒ ☐ ☐

d. All Aroclor Data present?

☒ ☐ ☐

### PART A: Low/Medium Aroclor Analyses

#### 1.0 Sample Conditions/Problems

1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?

☐ ☒ ☐

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the cooler was  $> 10^{\circ}\text{C}$ , then flag all positive results with a "U" and all non-detects "UJ".

#### 2.0 Holding Times

2.1 Have any Aroclor technical holding times, determined from date of collection to date of analysis, been exceeded?

☐ ☒ ☐

2.2 Preservation: Aqueous and Non-aqueous samples must be cooled at  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

• • • • •

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YES NO N/A

ACTION: Qualify sample results according to the following table.

## Holding Time Actions for Low/Medium Aroclor Analyses

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	≤ 7 days (extraction) > 40 days (analysis)	J*	UJ*
	No	> 7 days (extraction) > 40 days (analysis)	J	UJ
	Yes	≤ 7 days (extraction) ≤ 40 days (analysis)	No qualification	
	Yes	> 7 days (extraction) > 40 days (analysis)	J	UJ
	Yes/No	> 28 Days (extraction)	J	R
Non-aqueous	No	≤ 14 days (extraction) ≤ 40 days (analysis)	J*	UJ*
	No	> 14 days (extraction) > 40 days (analysis)	J	UJ
	Yes	≤ 14 days (extraction) ≤ 40 days (analysis)	No qualification	
	Yes	> 14 days (extraction) > 40 days (analysis)	J	UJ
	Yes/No	> 28 Days (extraction)	J	R

\*Only if cooler temperature exceeds 10°C (see ACTION in Section 1.1.1.1a).  
No action required if temperature  $\leq 10^\circ\text{C}$ .

3.0. Program Recovery Form I ARO-1, Form II ARO-2, Form VIII ARO

3.1 Are the Loss or Recovery Summary Forms present?

10. If missing deliverables are unavailable, document the effect in the Data Assessment.

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YES NO N/A

- 3.2 Were the two surrogates, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB) added to all samples, MS/MSD, LCS, blanks including standards?

11 — —

ACTION: If no, use professional judgment in qualifying data as missing surrogate analyte may not directly apply to target analytes.

- 3.3 Were outliers marked with an asterisk on Form II?

11 — —

ACTION: Circle all outliers with a red pencil.

If yes, were effected samples re-analyzed?

11 — —

- 3.4 The RTs of the surrogates in each mid-point Aroclor standards used for continuing calibration verification, all samples, including MS/MSD, LCS and all blanks must be within the calculated RT window. TCX must be within  $\pm 0.05$  minutes and DCB must be within  $\pm 0.10$  minutes of the mean retention time (RT) determined from the initial calibration and tabulated in Form VIII Pest.

Were any outliers marked with an asterisk on Form VIII ARO?

— — —

ACTION: Circle all outliers with a red pencil. If any Surrogate is outside the required limits, qualify their associated target compounds (See Table below) as follows:

Surrogate Compound Recovery Action for Aroclors

Criteria	Action	
	Detected Target Compounds	Non-Detected Target Compounds
%R > 200%	J	No qualification
150% < %R ≤ 200%	J	No qualification
30% ≤ %R ≤ 150%	No qualification	
10% ≤ %R < 30%	J	UJ
%R < 10% (sample dilution not a factor)	J	R
%R < 10% (sample dilution is a factor)	J	Use Professional Judgement
RT out of RT window	Use professional judgment	
RT within RT window	No qualification	

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YES NO N/A

Note: Blank analysis having surrogates out of specification:

The reviewer must give special consideration to the validity of associated samples. Basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. For example, if one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose to consider the blank problem to be an isolated occurrence.

ACTION: Note in the Data Assessment under Contract Problems/Non-Compliance if the Lab did not perform reanalysis and reviewer's judgment regarding blank problem.

3.5 Are there any transcription/calculation errors between raw data and Form IIs?   /  

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

#### 4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III ARO) present?   /  

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)?   /  

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

NOTE: No action is taken on MS/MSD data alone. However, using professional judgement, the validator may use the MS/MSD results in conjunction with other QC criteria and determine the need for some qualification of the data. If Any MS/MSD recovery or RPD is out of specification, qualify data for the consideration of the existence of interference data. Consideration include, but not limited to the following "Action":

#### Matrix Spike/Matrix Spike Duplicate Action for A

Criteria	Action	
	Detected Spike Compounds	MS/MSD
MR or RPD > Upper Acceptance Limit	J	
20% ≤ MR < Lower Acceptance Limit	J	

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YES NO N/A

%R < 20%	J	Use professional judgement
Lower Acceptance Limit $\leq$ %R; RPD $\leq$ Upper Acceptance Limit	No qualification	

Note: If it can be determined that the results of the MS/MSD affects only the sample spiked, limit qualification to only this sample. However, use professional judgment when it is determined through the MS/MSD results that the laboratory is having systematic problem in the analysis of one or more analytes that affect all associated samples.

## 5.0 Blanks (Form IV)

5.1 Is the Aroclor Method Blank Summary (Form IV ARO) present for aqueous and soil samples? 1 — —

5.2 Frequency of Analysis: For the analysis of AROCLOR, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent? 1 — —

ACTION: If any blank data are missing, take action as specified above in section 3.1. If blank data is not available, reject "R" all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

5.3 A separate Form IV should be present if part of an extraction batch required sulfur removal. In such cases some samples will be listed on two blank summary forms - once under the method blank, and once under the sulfur clean-up blank (PCBLK). Was this additional blank raw data and Form IV submitted when required? 1 — —

ACTION: If Form IV sulfur clean-up blank is missing, take action as specified in section 3.1 above.

5.4 Has a Aroclor instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence (minimum contract requirement)? 1 — —

ACTION: If any blank data are missing, take action specified in Section 3.1.

5.5 Was the correct identification scheme used for all Aroclor blanks? (See page B-39, section 3.3.7.3 of SOM01.1 for further information) 1 — —

ACTION: Contact the TOPO to obtain resubmittals or make the required corrections on the forms.

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YES NO N/A

Document in the Data Assessment under Contract Problems/Non-Compliance all corrections made by the validator.

- 5.6 Chromatography: Review the blank raw data chromatogram, quant. Reports and data system printout. Is the chromatographic performance (baseline stability) acceptable for each instrument?

☒ 1

ACTION: Use professional judgement to determine the effect on the data.

- 5.7 Are all detected hits for target compounds in method, and field blanks less than the CRQL?

☒ 1

ACTION: IF no, an explanation and laboratory's corrective actions must be addressed in the case SDG narrative. Contact TOPO to request from Lab. revised narrative and make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

#### 6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

- 6.1 Do any method/reagent or cleanup blanks contain positive hits for target Aroclor compounds with values greater than the CRQL for that analyte?

☒ 1

Note: The concentration of each target compound in the instrument blank must be less than the CRQL for that analyte.

ACTION: Make note in data assessment under Contract Problems/Non-Compliance if any blank contains hit above the CRQL.

- 6.2 Do any instrument blanks contain positive hits with values greater than CRQLs?

☒ 1

ACTION: Take the action specified in section 6.1.

- 6.3 Do any field/rinse blanks have positive hits?

☒ 1

NOTE: All field blank results associated with a sample (may exceed one per case) must be used to not be qualified because of contamination. Must be qualified for system monitoring. Use criteria: spectral or calibration.

samples  
may  
field  
ment

ACTION: Follow the directions in the table below to contamination. Use the largest value.

be  
ed

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YES NO N/A

blanks: If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

Blank Action for Aroclor Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field, Sulfur Cleanup, Instrument	Detects	Not detected	No qualification required
	< CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and ≥ blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

6.4 Are there field/rinse/equipment blanks associated with every sample? 11 /

ACTION: Note in data assessment if there's no associated field/rinse/equipment blank.

Exception: samples taken from a drinking water tap do not have associated field blanks.

7.0 Aroclor Initial and Continuing Calibration

7.1 Are the following Forms, chromatograms and data system printouts present?

a.) Form VI ARO-1/Aroclor Initial Calibration (Multipoint) 11 /

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YES NO N/A

- b.) Form VI ARO-2/Aroclor Initial Calibration (Multipoint) ☒ ☐ ☐
- c.) Form VI ARO-3/Aroclor Initial Calibration (Singlepoint) ☒ ☐ ☐
- d.) Form VII ARO/Aroclor Calibration Verification ☒ ☐ ☐
- e.) Form VIII ARO/Aroclor Analytical Sequence ☒ ☐ ☐
- f.) Form X ARO/Identification Summary for Multicomponent Analysis ☒ ☐ ☐

## 7.2 Initial Calibration

- 7.2.1 Was the following contract required initial calibration sequence provided by the laboratory? ☒ ☐ ☐

Initial Calibration Sequence	
1.	Aroclor 1221 CS3 (400ng/ml)
2.	Aroclor 1232 CS3 (400 ng/ml)
3.	Aroclor 1242 CS3 (400 ng/ml)
4.	Aroclor 1248 CS3 (400 ng/ml)
5.	Aroclor 1254 CS3 (400 ng/ml)
6.	Aroclor 1262 CS3 (400 ng/ml)
7.	Aroclor 1268 CS3 (400 ng/ml)
8.	Aroclor 1016/1260 (100 ng/ml) CS1
9.	Aroclor 1016/1260 (200 ng/ml) CS1
10.	Aroclor 1016/1260 (400 ng/ml) CS1
11.	Aroclor 1016/1260 (800 ng/ml) CS1
12.	Aroclor 1016/1260 (1600 ng/ml) CS1
13.	Instrument Blank

ACTION: If initial calibration is not performed or not performed sequence, notify the TOPO and make a note in the data.

the proper  
ment.

7.2.2 Were any description/calculation errors between the two sequences? ☒ ☐ ☐

ACTION: If large errors exist, take action specified in section 7.2.1.

above.

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YES NO N/A

7.4 Mean Retention Time (RT) and RT WindowWere the following mean RT and RT window met: ☒ — —

a.) The mean RT of each of the three to five major peaks were determined from the five-point initial calibration for all Aroclors

b.) RT window was calculated as  $\pm 0.07$  for each of the three to five major peaks and  $\pm 0.05$  and  $\pm 0.10$  for the surrogates tetrachloro-m-xylene and decachlorobiphenyl, respectively.

ACTION: If no, follow the action as specified in section 3.1.

7.5 Was at least one chromatogram from each of the Aroclor standards yield peaks that give deflection between 50-100% of full scale? ☒ — —

ACTION: IF no, take action as specified in section 3.1.

7.6 Was the mean Calibration Factor (CF) calculated for the three to five major peaks of each Aroclor, as well as for the surrogates, over the initial calibration range? ☒ — —

7.7 Were the Percent Relative Standard Deviation (%RSD) of the Calibration Factor for the three to five major peaks < 20% of each of the Aroclor compounds and surrogates? ☒ — —

ACTION: If no, take action as specified in the following Table.

Initial Calibration Action for Aroclor Analyses

Criteria	Action	
	Detected Associated Compounds	Non-Detected Associated Compounds
Initial calibration is not performed or not performed in proper sequence	Use Professional Judgment and notify Contract Lab Program (CLP) Project Officer	
%RSD exceeds allowable limits *	J	UJ
%RSD within allowable limits *	No qualification	

\* %RSD &lt; 20.0% for Aroclors and surrogates (tetrachloro-m-xylene and decachlorobiphenyl).

7.8 Continuing Calibration Verification (CCV) (Form VII)

Were the Absolute Retention Time (RT) for each Aroclor and surrogate in the mid-point concentration (CS3) of

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YES NO N/A

the Standard used for CCV must be within the RT window determined from the initial calibration?

- 7.9 For opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, the Percent Difference (%D) between the CF of each of the three to five peaks used to identify an Aroclor and surrogates in the mid-point concentration (CS3) of the Aroclor standards and the CF from the initial calibration must be within  $\pm 15.0\%$ .
- 7.10 For a closing CCV, the %D between the CF of each of the three to five peaks used to identify an Aroclor and surrogates in the mid-point concentration (CS3) of the Aroclor standards and the CF from the initial calibration must be within  $\pm 50.0\%$ .
- 7.11 No more than 14 hours may elapse from the injection of the instrument Blank that begins an analytical sequence (opening CCV) and the injection of the last mid-point concentration (CS3) of the Aroclor standards that ends an analytical sequence (closing CCV).
- 7.12 No more than 12 hours may elapse from the injection of the instrument blank that begins an analytical sequence (opening CCV and the injection of the last sample or blank that is part of the same analytical sequence.

Were sections 7.8 to 7.12 met?   /            

Also, use the following table to qualify Aroclor data:

Calibration Verification (CCV) Action for Aroclor Analyses

Criteria	Action	
	Detected Associated Compounds	Non-Detected Associated Compounds
RT out of window	Use professional	Ident *
Percent Difference not within limits $\pm 15\%$ as specified in section 7.9 above	J	UJ
Percent Difference not within limits $\pm 50\%$ as specified in section 7.10 above	J	UJ
Time elapsed is greater than acceptable limits as specified in section 7.11 & 7.12 above		
Percent Difference, Time elapsed and RT are within acceptable limits	No	

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YES NO N/A

\* For non-detected target compounds in the affected samples, check to see if the sample chromatogram contain any peak that are close to the expected RT window of the Aroclor of interest.

If no peaks are present, consider the non-detected values to be valid and no qualification of the data is necessary.

If any peaks are present close to the expected RT window of the Aroclor of interest, qualify the non-detected values as presumptively present "N".

For detected compounds in the affected samples, if the peaks are within the RT window, no qualification of the data is necessary. If the peaks are close to the expected RT window of the Aroclors of interest, the reviewer may take additional effort to determine if sample peaks represent the compound of interest.

For example, the reviewer can examine the data package for the presence of three or more standards containing the Aroclor of interest that were run within the analytical sequence during which the sample was analyzed. If three or more such standards are present, the RT window can be re-evaluated using the mean RT of the standards.

If the peaks in the affected sample fall within the revised window, qualify the detected Aroclor as "JN".

If the reviewer cannot do anything with the data to resolve the problem of concern, qualify all non-detects as unuseable "R".

### 8.0 Analytical Sequence Check (Form VIII-ARO)

- 8.1 Is Form VIII-Pest present and complete for each column and each period of analyses? 1/1

ACTION: If no, take action as specified in section 3.1

- 8.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses, and all standards analyzed at the required frequency for each GC/ECD instrument used? 1/1

ACTION: If no, use professional judgment to determine the severity of the effect on the data and qualify accordingly. Generally, the effect is negligible unless the sequence was grossly altered and/or the calibration was out of QC limits.

- 8.3 Are the surrogate retention time (RT) from the initial calibration for TCX and DCB provided on Form VIII-Pest? 1/1

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YES NO N/A

ACTION: If no, take action as specified in section 3.1

- 8.4 Was the asterisk (\*) applied to the RT of any blanks, samples, standards, MS/MSD, and LCS that did not meet the QC Limits of  $\pm 0.05$  minutes for TCX (tetrachloro-m-xylene) and  $\pm 0.10$  minutes for DCB (decachlorobiphenyl)?

11 /

ACTION: If any data are missing, take action specified in 3.1 above.

If no, use professional judgment to determine the severity of the effect on the data and qualify accordingly. Document in the data assessment under Contract Problems/Non-Compliance.

## 9.0 Sulfuric Acid and Gel Permeation Chromatography (GPC) Cleanup Procedures

- 9.1 Was sulfuric acid added to all extracts?

11

Note: Sulfuric acid cleanup is mandatory for all extracts

ACTION: If no, take action specified in section 3.1

### 9.2 Gel Permeation Chromatography (GPC)

GPC is an optional cleanup procedure for both aqueous and non-aqueous samples that contain high molecular weight compounds that interfere with Aroclor analysis.

- 9.3 If GPC cleanup was performed on samples, GPC calibration is acceptable if the two UV traces meet the following requirements.

a. Peaks must be observed and should be symmetrical for all compounds in the calibration solution.

b. Corn oil and phthalate peaks should exhibit greater than 85% resolution.

c. The phthalate and Methoxychlor peaks should exhibit greater than 85% resolution.

d. Methoxychlor and perylene peaks should exhibit greater than 85% resolution.

e. Perylene and sulfur peaks must be saturated and should exhibit greater than 90% baseline resolution.

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YES NO N/A

f. The RT shift is less than 5% between UV traces for bis(2-ethylhexylphthalate and perylene.

9.4 Were all above criteria met?

ACTION: If no, examine the raw data for the presence of high molecular weight contaminants. Examine the subsequent sample data for unusual peaks and use professional judgment in qualifying the data.

## 10.0 Laboratory Control Samples (LCSs)

10.1 LCSs provide information on the accuracy of the analytical method and laboratory performance.

### Aroclor Laboratory Control Sample Recovery - Aqueous and Non-Aqueous

Compound	% Recovery QC Limits
Aroclor 1016	50 - 150
Aroclor 1260	50 - 150
Tetrachloro-m-xylene (surrogate)	30 - 150
Decachlorobiphenyl (surrogate)	30 - 150

10.2 Were the above recoveries met?

ACTION: If no, qualify the sample data as follows:

Criteria	ACTION	
	Detected Associated Compound	Non-Detected Associated Compound
%R > Upper Acceptance Limit	J	No qualification
%R < Lower Acceptance Limit	J	R
Lower Acceptance Limit < %R < Upper Acceptance Limit	No qualification	

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YES NO N/A

## 11.0 Aroclor Identification (Form X ARO/Identification Summary for Multicomponent Analysis)

11.1 Is Form X (ARO) complete for every sample in which Aroclor was detected?

☒ 1 — —

ACTION: Take action as specified in section 3.1 above.

11.2 The identification of a Multi component Aroclor by GC method is based primarily on RT data and pattern recognition. Were the following requirements met:

☒ 1 — —

a.) A Minimum of 3 major peaks were selected for each Aroclor. If more than one Aroclor is observed in a sample, a peak common to other Aroclor(s) must not be used to quantitate other Aroclor. Lab must choose different peaks to quantitate each Aroclor.

b.) If chromatogram is replotted electronically to meet these requirements, the scaling factor used must be displayed on the chromatogram, and both the initial chromatogram and the replotted chromatogram must be submitted in the data package.

c.) The Retention Time (RT) of both of the surrogates and reported target compounds must be within the calculated RT window of both columns.

d.) When no analytes are identified in the sample, the chromatogram of the sample extract must use the same scaling factor used for the low-point standard of the initial calibration associated with those samples.

e.) Chromatogram must display the largest peak of any Aroclor detected in the sample at less than full scale.

f.) If an extract must be diluted, chromatograms must display Aroclor peaks between 25-100% of full scale.

NOTE: If retention times are not identified, or peak apex cannot be obtained, contact the lab to obtain rescaled chromatograms from the lab.

If data reviewer identifies a peak in both GC columns that fall within the appropriate windows, but was reported as

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YES NO N/A

non-detect, the compound may be false negative. If necessary, contact TOPO to instruct laboratory to re-evaluate the chromatograms.

- 11.3 Are there any transcription/calculation errors in Form I and Form X ARO? 1/1

ACTION: Take action as specified in section 3.1 above.

- 11.4 Are the RTs of Aroclor peaks within the established RT window for analyses on both columns? 1/1

- 11.5 Was the GC/MS confirmation provided for Aroclor concentration > 10 ug/ml in final extract? 1/1

NOTE: Laboratory is required to contact SMO to determine if GC/MS confirmation is required. Check the semivolatile TIC data for presence of Aroclors.

- 11.6 Is the per cent difference (%D) calculated for positive results on both columns < 25%? 1/1

Action: Reviewer must check columns for peak interference for the positive hits. Qualify the Aroclor (s) according to the following Table:

Action on Qualifying Positive Aroclor Results

Percent Differences	Qualifier
0 - 25%	None
26 - 70%	"J"
71 - 100%	"JN"
101 - 200% (No Peak Interferences)	"R"
101 - 200% (Interferences detected) *	"JN"

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YES NO N/A

> 50% (Aroclor value < CRQL)**	"U"
> 200%	"R"

\* When interferences is detected on either column, qualify the data as "JN"

\*\* When the Aroclor value is below CRQL and %D > 50%, raise the value to CRQL and qualify "U", undetected.

#### 12.0 Target Aroclor List (TCL)

12.1 Are the Aroclor Analysis Data Sheets (Form I ARO) present with required order information on each page for samples, MS/MSD (if required), method and instrument blanks (per column & analysis)? 1/1 — —

12.2 Is the chromatographic performance acceptable with respect to baseline stability, full-scale attenuation, peak shape/resolution? 1/1 — —

ACTION: If no, take action specified in section 3.1 above.

#### 13.0 Compound Quantitation and Reported Detection Limits

13.1 Are there any transcription/calculation errors in the Form I results? Check at least two positive results. Were any errors found? 1/1 1/ —

ACTION: If errors were found, take action as specified in section 3.1 above.

13.2 Are the contract required quantitation limits (CRQL) adjusted to reflect sample dilution? 1/1 — 1/

ACTION: If errors exist, take action as specified in section 3.1 above.

ACTION: When a sample is required to be diluted, the lower CRQL is used (unless QC exceedance dictates the use of the higher CRQL from the diluted sample). Replace concentration which exceed the calibration range in the original analysis by crossing out the "E" value on the original Form I and substituting it with the result from the diluted sample. Specify which Form I to use.

STANDARD OPERATING PROCEDURE . . . . .

USEPA Region II

Date: August 2007

Method: CLP/SOW, SOM01.2/Aroclor

SOP HW-37/Aroclor, Revision 1

YES NO N/A

Use a red pencil and draw a red "X" across the entire page of all Form I's that should not be used, including those in the data summary package.

At the top or bottom of the Forms, write with red pencil, "DO Not Use".

Note: If the sample dilution factor (DF) is greater than 10, an additional 10 times more concentrated than the diluted sample extract must be analyzed and reported with the sample data. If the DF is less or equal to 10, but greater than 1, the results of the original undiluted analysis must also be reported (see SOM01.1/section 10.3.3.4/page D-44/ARO).

ACTION: IF the above requirement was not met, contact the TOPO to obtain an explanation/resubmittal from the lab and make a note in the Data Assessment under Contract Problems/Non-Compliance section.

13.3 For non-aqueous samples, were the percent moisture < 70%? ☒ ☐ ☐

Action: If the % moisture  $\geq 70.0\%$  and  $< 90.0\%$ , qualify detects as "J" and non-detects as approximated "UJ" If the % Moisture  $\geq 90\%$ , qualify detects as "J" and non-detects as "R"

14.0 Field Duplicates

14.1 Were any field duplicates submitted for Aroclor analysis? ☒ ☐ ☐

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

STANDARD OPERATING PROCEDURE . . . . .

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

SOP HW-37/Aroclor, Revision 1

---

YES NO N/A

# STANDARD OPERATING PROCEDURE . . . . .

USEPA Region II  
Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007  
SOP HW-37/Aroclor, Revision 1

YES NO N/A

## Definitions

ARO - Aroclor  
CCS - contract compliance screening  
CF - Calibration Factor  
CLASS - Contract Laboratory Analytical Services Support  
CLP - Contract Laboratory Program  
CRQL - Contract Required Quantitation Limit  
GC/ECD - Gas Chromatography/Electron Capture Detector  
kg - kilogram  
µg - microgram  
l - liter  
ml - milliliter  
QC - quality control  
RAS - Routine Analytical Services  
RPD - Relative Percent Difference  
RRF - Relative Response Factor  
RRF - Average Relative Response Factor (from initial calibration)  
RRT - Relative Retention Time  
RSD - Relative Standard Deviation  
RT - Retention Time  
RSCC - Regional Sample Control Center  
SDG - Sample Delivery Group  
SOP - standard operating procedure  
SOW - Statement of Work  
TCL - Target Compound List  
TCLP - Toxicity Characteristics Leachate Procedure  
TIC - Tentatively Identified Compound  
TPO - Technical Project Officer  
VTSR - Validated Time of Sample Receipt  
TOPO - Task Order Project Officer

## STANDARD OPERATING PROCEDURE . . . . .

USEPA Region II  
Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007  
SOP HW-37/Aroclor, Revision 1

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YES NO N/A

### References

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media, Multi-Concentration, SOW/CLP/SOM01.2, February 2007.
2. National Functional Guidelines for Superfund Organic Methods Data Review July 2007.

## Request for Quote (RFQ) for Modified Analysis

Date: December 6, 2007

**Subject:** Modification Reference Number: 1508.0  
Title: Filtration of Water Samples  
Sample Matrix: Water  
Fraction Affected: Aroclors  
Statement of Work: SOM01.2

### Purpose:

The Contractor Laboratory is requested to perform the following modified analyses under the Organic Statement of Work (SOW) SOM01.2, based on the additional specifications listed below. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in SOW SOM01.2 remain unchanged and in full force and effect. The number of samples requested in this modification is not guaranteed.

*Please note that accepting a modified analysis request is voluntary, and that the Laboratory is not required to accept the modified analysis. There will be no adverse effect to the Laboratory for not accepting the modified analysis request.* However, once the Laboratory accepts the request for modified analysis, it shall perform the analysis in accordance with this modification and as specified in SOW SOM01.2.

The Laboratory is requested to review the modification described herein, determine whether or not it shall accept the requested modified analyses, and complete the attached response form. The Laboratory shall provide comments in response to the required changes in the designated area, in order to ensure that the modified analysis can be completed in accordance with the specifications described herein.

The requirements in the RFQ are as stated and any defects will be assessed by SMO per the laboratory contract. The Laboratory should take this into account when submitting their quote.

Notice to Contractors: Acceptance of Modified Analysis samples will not count against the monthly capacity.

**Modification to the SOW Specifications:**

SOW SOM01.2 requires the Laboratory to analyze water samples for the Aroclor target compounds and Contract Required Quantitation Limits (CRQLs) listed in Exhibit C, Section 4.0, using the protocol outlined in Exhibit D, Analytical Method for the Analysis of Aroclors.

In this modified analysis request, water samples scheduled for Aroclor analyses must be filtered prior to extraction using a 0.45um filter, so that any sediment captured in these aqueous samples are removed. To facilitate the process each sample must be filtered with a new, clean filter. The laboratory will not use the same filter for more than one sample.

**Reporting Requirements:**

Hardcopy and electronic data reporting are required as specified per SOW SOM01.2. All hardcopy and electronic data shall be adjusted to incorporate modified specifications. This includes attaching a copy of the requirements for modified analysis to the SDG Narrative. If specific problems occur with incorporation of the modified analysis into the hardcopy and/or electronic deliverable, the Laboratory shall contact the DASS Manager within the Sample Management Office (SMO) at (703) 818-4233 or via e-mail at CCSSUPPORT@fedcsc.com for resolution.

All samples and/or fractions assigned to an SDG shall be analyzed under the same Modified Analysis requirements as established in this memorandum. The Laboratory shall not include data from multiple Modified Analyses in one SDG.

The Laboratory shall include the Modification Reference Number 1508.0 on each hardcopy data form under the "Mod. Ref. No." header appearing on each form as well as the data element "ServicesID" under the "SamplePlusMethod" node of the EDD. This should be done for the fractions affected by the modified analysis only. The "ServicesID" field should remain blank for all other fractions reported in the SDG. The Laboratory shall also document the Modification Reference Number and the Solicitation Number on the SDG Coversheet.

---

**Clarifications/Revisions to the RFQ for Modified Analysis:**

---

**Laboratory Name: MITKEM****Laboratory Comments:**

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JAN 09 2008

HAZ. WASTE SUPPORT SEC

### SDG Narrative

Mitkem Corporation submits the enclosed data package in response to USEPA Case # 37088 and SDG# B4JD2. Analyses were performed for two aqueous samples that were received on December 20 and 21, 2007. The analyses were performed under USEPA Contract # EP-W-05-030. Please note that the sample-shipping cooler received on December 20 was measured at 5°C. The cooler received on December 21 was measured at 3°C.

Tags were not received with the samples. Per the Region, proceed with analysis of the samples. Region 2 does not require sample tags.

The following samples are submitted in this data package:

<u>Client ID</u>	<u>Lab ID</u>	<u>Analysis</u>
B4JD2	F1915-01A	A
B4JJ2	F1915-02A	A

A = Aroclors

The analyses were performed using USEPA CLP Multi-Media, Multi-Concentration (SOM01.2) protocols. The analyses were performed with strict adherence to the SOW with the following exceptions and observations:

#### 1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.
- M6 software did not integrate peak
- M7 partial peak integration

#### 2. Aroclor Analysis

GC column used: 30 m x 0.53 mm id (0.42 um film thickness) CLPPestII and 30 m x 0.53 mm id (0.5 um film thickness) CLPPest megabore columns

The concentration of target analytes were determined using the following equation:

$$\text{Concentration } (\mu\text{g/L}) = \frac{(\text{Amt})(\text{DF})(\text{UF})(\text{V}_t)}{(\text{V}_o * \text{V}_i)}$$

where: Amt = Lower value of two Conc

DF = Dilution Factor

UF = Correction Factor

V<sub>t</sub> = Volume of final extract (μL)

V<sub>i</sub> = Volume of sample injected (μL)

V<sub>o</sub> = Volume of sample extracted (mL)

Surrogate recoveries were within the QC limits.

Spike recoveries were within the QC limits in the lab control sample.


Manual integration was performed on the following:

AR16604S2: Aroclors 1016 and 1260 in the front column due to M3.

No other unusual observation was made for the analysis.

All of the submittals to the region are originals other than logbook pages. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. Tunes, calibration verifications and initial calibrations that are shared among several cases are photocopies indicating the location of the originals.

I certify that this Sample Data Package is in compliance with the terms and condition of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.



Agnes Ng  
CLP Project Manager  
01/08/08

### SDG Narrative

Mitkem Corporation submits the enclosed data package in response to USEPA Case # 37088 and SDG# B4HZ0. Analyses were performed for fourteen aqueous samples that were received on December 14 and 20, 2007. The analyses were performed under USEPA Contract # EP-W-05-030. Please note that three sample-shipping coolers were received on December 14. The temperature of the coolers were measured at 2°C, 2°C and 2°C. Four coolers were received on December 20. The coolers were measured at 2°C, 2°C, 2°C and 5°C.

The samples were analyzed under Modified Analysis 1508.0, to filter the aqueous samples through a 0.45µm filter prior to extraction. A copy of the requirements for Modified Analysis 1508.0 is included following the SDG narrative

Samples B4HZ0 and B4J80 are both designated as samples for laboratory QC on the TR/COC. Per the Region, the laboratory will select one sample. Laboratory QC will be performed on sample B4HZ0.

Tags were not received with the samples. Per the Region, proceed with analysis of the samples. Region 2 does not require sample tags.

The following samples are submitted in this data package:

<u>Client ID</u>	<u>Lab ID</u>	<u>Analysis</u>
B4HZ3	F1870-01A	A
B4HZ0	F1870-02A	A
B4HZ0MS	F1870-02AMS	A
B4HZ0MSD	F1870-02AMSD	A
B4J79	F1870-03A	A
B4J80	F1870-04A	A
B4J81	F1870-05A	A
B4J82	F1870-06A	A
B4J83	F1870-07A	A
B4J84	F1870-08A	A
B4J85	F1870-09A	A
B4J86	F1870-10A	A
B4J87	F1870-11A	A
B4J88	F1870-12A	A
B4J89	F1870-13A	A
B4J90	F1870-14A	A

A = Aroclors

The analyses were performed using USEPA CLP Multi-Media, Multi-Concentration (SOM01.2) protocols. The analyses were performed with strict adherence to the SOW with the following exceptions and observations:

#### 1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.
- M6 software did not integrate peak
- M7 partial peak integration

#### 2. Aroclor Analysis

GC column used: 30 m x 0.53 mm id (0.42 um film thickness) CLPPestII and 30 m x 0.53 mm id (0.5 um film thickness) CLPPest.megabore columns

The concentration of target analytes were determined using the following equation:

$$\text{Concentration } (\mu\text{g/L}) = \frac{(\text{Amt})(\text{DF})(\text{UF})(V_t)}{(V_o * V_i)}$$

where: Amt = Lower value of two Conc

DF = Dilution Factor

UF = Correction Factor

V<sub>t</sub> = Volume of final extract (μL)

V<sub>i</sub> = Volume of sample injected (μL)

V<sub>o</sub> = Volume of sample extracted (mL)

Surrogate recoveries were within the QC limits.

Spike recoveries were within the QC limits in the lab control samples.

## Request for Quote (RFQ) for Modified Analysis

Date: December 6, 2007

**Subject:** Modification Reference Number: 1508.0  
Title: Filtration of Water Samples  
Sample Matrix: Water  
Fraction Affected: Aroclors  
Statement of Work: SOM01.2

### Purpose:

The Contractor Laboratory is requested to perform the following modified analyses under the Organic Statement of Work (SOW) SOM01.2, based on the additional specifications listed below. Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in SOW SOM01.2 remain unchanged and in full force and effect. The number of samples requested in this modification is not guaranteed.

*Please note that accepting a modified analysis request is voluntary, and that the Laboratory is not required to accept the modified analysis. There will be no adverse effect to the Laboratory for not accepting the modified analysis request.* However, once the Laboratory accepts the request for modified analysis, it shall perform the analysis in accordance with this modification and as specified in SOW SOM01.2.

The Laboratory is requested to review the modification described herein, determine whether or not it shall accept the requested modified analyses, and complete the attached response form. The Laboratory shall provide comments in response to the required changes in the designated area, in order to ensure that the modified analysis can be completed in accordance with the specifications described herein.

The requirements in the RFQ are as stated and any defects will be assessed by SMO per the laboratory contract. The Laboratory should take this into account when submitting their quote.

Notice to Contractors: Acceptance of Modified Analysis samples will not count against the monthly capacity.

**Modification to the SOW Specifications:**

SOW SOM01.2 requires the Laboratory to analyze water samples for the Aroclor target compounds and Contract Required Quantitation Limits (CRQLs) listed in Exhibit C, Section 4.0, using the protocol outlined in Exhibit D, Analytical Method for the Analysis of Aroclors.

In this modified analysis request, water samples scheduled for Aroclor analyses must be filtered prior to extraction using a 0.45um filter, so that any sediment captured in these aqueous samples are removed. To facilitate the process each sample must be filtered with a new, clean filter. The laboratory will not use the same filter for more than one sample.

**Reporting Requirements:**

Hardcopy and electronic data reporting are required as specified per SOW SOM01.2. All hardcopy and electronic data shall be adjusted to incorporate modified specifications. This includes attaching a copy of the requirements for modified analysis to the SDG Narrative. If specific problems occur with incorporation of the modified analysis into the hardcopy and/or electronic deliverable, the Laboratory shall contact the DASS Manager within the Sample Management Office (SMO) at (703) 818-4233 or via e-mail at CCSSUPPORT@fedcsc.com for resolution.

All samples and/or fractions assigned to an SDG shall be analyzed under the same Modified Analysis requirements as established in this memorandum. The Laboratory shall not include data from multiple Modified Analyses in one SDG.

The Laboratory shall include the Modification Reference Number 1508.0 on each hardcopy data form under the "Mod. Ref. No." header appearing on each form as well as the data element "ServicesID" under the "SamplePlusMethod" node of the EDD. This should be done for the fractions affected by the modified analysis only. The "ServicesID" field should remain blank for all other fractions reported in the SDG. The Laboratory shall also document the Modification Reference Number and the Solicitation Number on the SDG Coversheet.

---

**Clarifications/Revisions to the RFQ for Modified Analysis:**

---

**Laboratory Name: MITKEM****Laboratory Comments:**

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RG

HAZ. WASTE SUPPORT SEC

## SDG Narrative

Mitkem Corporation submits the enclosed data package in response to USEPA Case # 37088 and SDG# B4HJ6. Analyses were performed for twenty aqueous samples that were received on December 11 and 14, 2007. The analyses were performed under USEPA Contract # EP-W-05-030. Please note that four sample-shipping coolers were received on December 11. The temperature of the coolers were measured at 3°C, 3°C, 4°C and 4°C. Three coolers were received on December 14. The coolers were measured at 2°C, 2°C and 2°C.

The samples were analyzed under Modified Analysis 1508.0, to filter the aqueous samples through a 0.45µm filter prior to extraction. A copy of the requirements for Modified Analysis 1508.0 is included following the SDG narrative

Tags were not received with the samples. Per the Region, proceed with analysis of the samples. Region 2 does not require sample tags.

The following samples are submitted in this data package:

<u>Client ID</u>	<u>Lab ID</u>	<u>Analysis</u>
B4HJ6	F1828-01A	A
B4HJ7	F1828-02A	A
B4HJ8	F1828-03A	A
B4HJ9	F1828-04A	A
B4HK0	F1828-05A	A
B4HK1	F1828-06A	A
B4HK1MS	F1828-06AMS	A
B4HK1MSD	F1828-06AMSD	A
B4HK2	F1828-07A	A
B4HK3	F1828-08A	A
B4HK4	F1828-09A	A
B4HK5	F1828-10A	A
B4HK6	F1828-11A	A
B4HK7	F1828-12A	A
B4HK8	F1828-13A	A
B4HY6	F1828-14A	A
B4HY7	F1828-15A	A
B4HY8	F1828-16A	A
B4HY9	F1828-17A	A
B4HZ4	F1828-18A	A
B4HZ1	F1828-19A	A
B4HZ2	F1828-20A	A

A = Aroclors

The analyses were performed using USEPA CLP Multi-Media, Multi-Concentration (SOM01.2) protocols. The analyses were performed with strict adherence to the SOW with the following exceptions and observations:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.
- M6 software did not integrate peak
- M7 partial peak integration

2. Aroclor Analysis

GC column used: 30 m x 0.53 mm id (0.42 um film thickness) CLPPestII and 30 m x 0.53 mm id (0.5 um film thickness) CLPPest megabore columns

The concentration of target analytes were determined using the following equation:

$$\text{Concentration } (\mu\text{g/L}) = \frac{(\text{Amt})(\text{DF})(\text{UF})(V_t)}{(V_o * V_i)}$$

where: Amt = Lower value of two Conc

DF = Dilution Factor

UF = Correction Factor

V<sub>t</sub> = Volume of final extract (μL)

V<sub>i</sub> = Volume of sample injected (μL)

V<sub>o</sub> = Volume of sample extracted (mL)

Surrogate recoveries were within the QC limits.

Spike recoveries were within the QC limits in the lab control samples.

Matrix spike and matrix spike duplicate were performed on sample B4HK1. Spike recoveries and replicate RPDs were within the advisory QC limits.

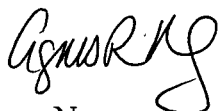
Manual integration was performed on the following:

AR16604S2: Aroclors 1016 and 1260 in the front column due to M3.

No other unusual observation was made for the analysis.

All of the submittals to the region are originals other than logbook pages. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. Tunes, calibration verifications and initial calibrations that are shared among several cases are photocopies indicating the location of the originals.

I certify that this Sample Data Package is in compliance with the terms and condition of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.



Agnes Ng  
CLP Project Manager  
01/03/08

Matrix spike and matrix spike duplicate were performed on sample B4HZ0. Spike recoveries and replicate RPDs were within the advisory QC limits.

Manual integration was performed on the following:

AR16604S2: Aroclors 1016 and 1260 in the front column due to M3


AR12421H1: Aroclor 1242 in the rear column due to M4.

No other unusual observation was made for the analysis.

All of the submittals to the region are originals other than logbook pages. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory.

Tunes, calibration verifications and initial calibrations that are shared among several cases are photocopies indicating the location of the originals.

I certify that this Sample Data Package is in compliance with the terms and condition of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.



Agnes Ng  
CLP Project Manager  
01/08/08

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Contract Laboratory Program

# Sample Delivery Group (SDG)

## Cover Sheet

SDG Number B4HZ0

Laboratory Name	Mitkem Laboratories	Lab Code	MITKEM
Contract No.	EP-W-05-030	Case No.	37088
Analysis Price	\$ 0.00	SDG Turnaround	21 days

### EPA Sample Numbers in SDG (Listed in Numerical Order)

01) B4HZ0	08) B4J82	15) B4J89	
02) B4HZ0MS	09) B4J83	16) B4J90	
03) B4HZ0MSD	10) B4J84		
04) B4HZ3	11) B4J85		
05) B4J79	12) B4J86		
06) B4J80	13) B4J87		
07) B4J81	14) B4J88		

First Sample in SDG

B4HZ0

Last Sample in SDG

B4J90

First Sample Receipt Date

12/14/2007

Last Sample Receipt Date

12/20/2007

**Note:** There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature

*[Handwritten Signature]*

Date 12/21/2007

Modified Analysis 1508.0

0006



Contract Laboratory Program

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### Sample Delivery Group (SDG)

#### Cover Sheet

SDG Number B4HJ6

Laboratory Name	Mitkem Laboratories	Lab Code	MITKEM
Contract No.	EP-W-05-030	Case No.	37088
Analysis Price	\$ 0.00	SDG Turnaround	21 days

#### EPA Sample Numbers in SDG (Listed in Numerical Order)

01) B4HJ6	08) B4HK1MSD	15) B4HK8	22) B4HZ4
02) B4HJ7	09) B4HK2	16) B4HY6	
03) B4HJ8	10) B4HK3	17) B4HY7	
04) B4HJ9	11) B4HK4	18) B4HY8	
05) B4HK0	12) B4HK5	19) B4HY9	
06) B4HK1	13) B4HK6	20) B4HZ1	
07) B4HK1MS	14) B4HK7	21) B4HZ2	

First Sample in SDG

B4HJ6

Last Sample in SDG

B4HZ4

First Sample Receipt Date

12/11/2007

Last Sample Receipt Date

12/14/2007

**Note:** There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form)].

Signature

*Asmury*

Date 12/14/2007

Modified Analysis 1508.0

0006



Contract Laboratory Program

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JAN 09 2008  
HAZ. WASTE SUPPORT SEC

## Sample Delivery Group (SDG)

### Cover Sheet

SDG Number B4JD2

Laboratory Name	Mitkem Laboratories	Lab Code	MITKEM
Contract No.	EP-W-05-030	Case No.	37088
Analysis Price	\$ 0.00	SDG Turnaround	21 days

EPA Sample Numbers in SDG (Listed in Numerical Order)

01) B4JD2			
02) B4JJ2			

First Sample in SDG

B4JD2

Last Sample in SDG

B4JJ2

First Sample Receipt Date

12/20/2007

Last Sample Receipt Date

12/21/2007

**Note:** There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature

*Agustin R. [Signature]*

Date

12/27/2007

0003

**Agnes Ng**

---

**From:** "Von Moll, Kristin" <kvonmoll@fedcsc.com>  
**To:** "Agnes Ng" <agnes\_ng@mitkem.com>; "Shirley Ng" <sng@mitkem.com>  
**Cc:** "Rudolph, Elizabeth" <erudolph@fedcsc.com>; "Adly Michael" <Michael.Adly@epamail.epa.gov>;  
"Jennifer Ferranda" <feranda.jennifer@epa.gov>  
**Sent:** Monday, December 17, 2007 9:03 AM  
**Subject:** Region 02 | Case 37088 | Lab MITKEM | Issue Non-sampler issues | FINAL

Agnes,

\*\*\*Summary Start\*\*\*

Issue: No sample tags were received with the samples.

Resolution: In accordance with previous direction from Region 2, the laboratory will note the issue in the SDG Narrative, and proceed with the analysis of the samples. Region 2 does not require sample tags.

\*\*\*Summary End\*\*\*

Please let me know if you have any other questions.

Thanks,

Kristin Von Moll  
CSC  
Environmental Coordinator  
(703) 818-4235  
[kvonmoll@fedcsc.com](mailto:kvonmoll@fedcsc.com)

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**From:** Rudolph, Elizabeth  
**Sent:** Monday, December 17, 2007 8:44 AM  
**To:** Von Moll, Kristin  
**Subject:** FW: Case 37088

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**From:** Agnes Ng [[mailto:agnes\\_ng@mitkem.com](mailto:agnes_ng@mitkem.com)]  
**Sent:** Friday, December 14, 2007 7:47 PM  
**To:** Rudolph, Elizabeth  
**Subject:** Case 37088

Hi Beth,

We did not receive any tags with the samples.

Thanks,  
Agnes Ng  
CLP Project Manager  
(P) 401-732-3400 x316  
(F) 401-732-3499

\*\*\*\*\*

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# RECORD OF COMMUNICATION

# REGIONAL SAMPLE CONTROL CENTER

**ROC #2**

DATE: 1/16/2008  
SUBJECT: CLP Data Package for Quality Assurance Review  
FROM: Hazardous Waste Support Section (HWSS)/RSCC  
TO: HWSS ESAT-TOPO

**TDF#**

***Attached is the following ORGANIC Data Package to be reviewed for Quality Assurance***

**SITE: Cornell Dubilier**

**CASE #: 37088**

SDG#: B4HR9, B4HX9

**SAMPLER: W-RST**

**PROJ. CODE: RS SITE SPILL #: GZ**

## #SAMPLES

## MATRIX

**LAB: SHEALY    OPERABLE UNIT: 00**

40

## Soil

**TURN-AROUND-TIME: 21 day**

**CERCLIS ID # : NJD981557879**

**FRACTION:**

## PCBs

**Contaminant(s) of Concern (If known).**

## REGION II RSCC DATA TRANSFER LOG

### Relinquished By

**Received By**

**Signature**

**Date/Time**

**Signature**

**Date/Time**

Rachael Lahan 1/18/08 1:49 pm

B. Karnos 01/18/08 1:44pm

George Farnam 01/22/08 930 hr

Handwritten: 01/22/08 9:30 AM

Hand Sheikh 1/22/08 9:45 AM

George Karas 01/22/08 9:45 AM

9 kārmas 01/22/08 10:20 AM

Robert L. ... 1/22/07 10 AM

\_\_\_\_\_

1. *Chlorophyll a* (Chl *a*)

\_\_\_\_\_

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\_\_\_\_\_

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1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HR9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-001

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 029F3001

% Moisture: 22 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	43	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	41	JP
11096-82-5	Aroclor-1260	43	U
37324-23-5	Aroclor-1262	43	U
11100-14-4	Aroclor-1268	43	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-002

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 030F3101

% Moisture: 17 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.6

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	660	<del>E</del>
11096-82-5	Aroclor-1260	40	U
37324-23-5	Aroclor-1262	40	U
11100-14-4	Aroclor-1268	40	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-003

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 031F3201

% Moisture: 12 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEK

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	120	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-004

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 032F3301

% Moisture: 14 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	130	
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-005

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 033F3401

% Moisture: 7.1 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	260	
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-006

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 035F3601

% Moisture: 16 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEK

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.2

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	200	P
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4-HS5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-007

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 036F3701

% Moisture: 16 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	550	P
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-008

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 037F3801

% Moisture: 9.1 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	<del>36</del> <u>2000</u>	<del>U</del> <u>EJ</u>
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

\* Transfer of 37088 to B4HS6

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HRS

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-009

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 038F3901

% Moisture: 17 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	1400	EF
37324-23-5	Aroclor-1262	40	U
11100-14-4	Aroclor-1268	40	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-010

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 039F4001

% Moisture: 10 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 10000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.5

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	73	U
11104-28-2	Aroclor-1221	73	U
11141-16-5	Aroclor-1232	73	U
53469-21-9	Aroclor-1242	73	U
12672-29-6	Aroclor-1248	73	U
11097-69-1	Aroclor-1254	<i>* 2200 2800</i>	<i>EP-5</i>
11096-82-5	Aroclor-1260	73	U
37324-23-5	Aroclor-1262	73	U
11100-14-4	Aroclor-1268	73	U

*\* Transfer from B4HS8.DL*

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HS9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-011

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 040F4101

% Moisture: 19 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: 6.6

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	81	U
11104-28-2	Aroclor-1221	81	U
11141-16-5	Aroclor-1232	81	U
53469-21-9	Aroclor-1242	81	U
12672-29-6	Aroclor-1248	81	U
11097-69-1	Aroclor-1254	6600	E
11096-82-5	Aroclor-1260	81	U
37324-23-5	Aroclor-1262	81	U
11100-14-4	Aroclor-1268	81	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT0

Lab Name: Shealy Environmental Services, Inc. Contract: EP-W-05-031  
Lab Code: SHEALY Case No.: 37088 Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9  
Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IL14047-012  
Sample wt/vol: 15.0 (g/mL) g Lab File ID: 041F4201  
% Moisture: 18 Decanted: (Y/N) N Date Received: 12/13/2007  
Extraction: (Type) PFEEX Date Extracted: 12/20/2007  
Concentrated Extract Volume: 5000.0 (uL) Date Analyzed: 01/05/2008  
Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 2.0  
GPC Cleanup: (Y/N) N pH: 6.8 Sulfur Cleanup: (Y/N) Y  
Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	80	U
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	* <del>4900-5800</del>	E
11096-82-5	Aroclor-1260	80	U
37324-23-5	Aroclor-1262	80	U
11100-14-4	Aroclor-1268	80	U

\* Trip from B4HT0 DL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT1

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:                      SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-013

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 042F4301

% Moisture: 19 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: 6.9

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	82	U
11104-28-2	Aroclor-1221	82	U
11141-16-5	Aroclor-1232	82	U
53469-21-9	Aroclor-1242	82	U
12672-29-6	Aroclor-1248	82	U
11097-69-1	Aroclor-1254	82	U
11096-82-5	Aroclor-1260	* <del>4400</del> 4900	E
37324-23-5	Aroclor-1262	82	U
11100-14-4	Aroclor-1268	82	U

\* Transfer from B4HT1 BL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-014

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 043F4401

% Moisture: 20 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/05/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	2900	E
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-015

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 044F4501

% Moisture: 20 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/06/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.1

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	900	E
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

\* Sample from B4HT3

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-016

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 045F4601

% Moisture: 13 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/06/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.9

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

\* Transfer from B4HT4 DL

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-017

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 046F4701

% Moisture: 14 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/06/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.0

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	170	P
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-018

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 047F4801

% Moisture: 13 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/06/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	73	
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HT7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-019

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 050F5101

% Moisture: 19 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/06/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	210	
11096-82-5	Aroclor-1260	41	U
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.:

B4HT8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:                      SDG No.: B4HR9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14047-020

Sample wt/vol: 15.0 (g/mL) g

Lab File ID: 051F5201

% Moisture: 12 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/20/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/06/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	38	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	100	
11096-82-5	Aroclor-1260	38	U
37324-23-5	Aroclor-1262	38	U
11100-14-4	Aroclor-1268	38	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HX9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14049-001

Sample wt/vol: 15.2 (g/mL) g

Lab File ID: 046F4701

% Moisture: 17 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEK

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.2

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	19200-27000	EP
11097-69-1	Aroclor-1254	28000	EP
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY0

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14049-002

Sample wt/vol: 15.3 (g/mL) g

Lab File ID: 047F4801

% Moisture: 20 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.7

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	* 2200 2900	EPS
11097-69-1	Aroclor-1254	* 2000 3100	EP
11096-82-5	Aroclor-1260	41	U
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

\* Transfer from B4HY00L

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY1

Lab Name: Shealy Environmental Services, Inc. Contract: EP-W-05-031  
Lab Code: SHEALY Case No.: 37088 Mod. Ref No.:            SDG No.: B4HX9  
Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IL14049-003  
Sample wt/vol: 15.0 (g/mL) g Lab File ID: 048F4901  
% Moisture: 26 Decanted: (Y/N) N Date Received: 12/13/2007  
Extraction: (Type) PFEX Date Extracted: 12/22/2007  
Concentrated Extract Volume: 5000.0 (uL) Date Analyzed: 01/01/2008  
Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
GPC Cleanup: (Y/N) N pH: 6.4 Sulfur Cleanup: (Y/N) Y  
Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	44	U
11104-28-2	Aroclor-1221	44	U
11141-16-5	Aroclor-1232	44	U
53469-21-9	Aroclor-1242	44	U
12672-29-6	Aroclor-1248	44	U
11097-69-1	Aroclor-1254	67000	EP
11096-82-5	Aroclor-1260	44	U
37324-23-5	Aroclor-1262	44	U
11100-14-4	Aroclor-1268	44	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY2

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14049-004

Sample wt/vol: 15.8 (g/mL) g

Lab File ID: 049F5001

% Moisture: 24 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.2

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	* 2000 2300	EF
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

\* Transfer from B4HY2 DL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY3

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14049-005

Sample wt/vol: 15.7 (g/mL) g

Lab File ID: 050F5101

% Moisture: 21 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U
37324-23-5	Aroclor-1262	40	U
11100-14-4	Aroclor-1268	40	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY4

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14049-006

Sample wt/vol: 15.6 (g/mL) g

Lab File ID: 051F5201

% Moisture: 18 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.6

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	3400	EP
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HY5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL14049-007

Sample wt/vol: 15.4 (g/mL) g

Lab File ID: 052F5301

% Moisture: 23 Decanted: (Y/N) N

Date Received: 12/13/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	42	U
11104-28-2	Aroclor-1221	42	U
11141-16-5	Aroclor-1232	42	U
53469-21-9	Aroclor-1242	42	U
12672-29-6	Aroclor-1248	42	U
11097-69-1	Aroclor-1254	8200	E
11096-82-5	Aroclor-1260	42	U
37324-23-5	Aroclor-1262	42	U
11100-14-4	Aroclor-1268	42	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ5

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-001

Sample wt/vol: 15.6 (g/mL) g

Lab File ID: 032F3301

% Moisture: 11 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 8.0

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	36	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U
37324-23-5	Aroclor-1262	36	U
11100-14-4	Aroclor-1268	36	U

\* Transfer from B442

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ6

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-002

Sample wt/vol: 15.4 (g/mL) g

Lab File ID: 033F3401

% Moisture: 8.3 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.8

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	35	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U
37324-23-5	Aroclor-1262	35	U
11100-14-4	Aroclor-1268	35	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ7

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-003

Sample wt/vol: 15.4 (g/mL) g

Lab File ID: 034F3501

% Moisture: 19 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	* 3700 4600	EP T
11096-82-5	Aroclor-1260	40	U
37324-23-5	Aroclor-1262	40	U
11100-14-4	Aroclor-1268	40	U

\* Transfer from B4HZ7 DL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ8

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-004

Sample wt/vol: 15.7 (g/mL) g

Lab File ID: 035F3601

% Moisture: 10 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.5

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	35	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	5800	EP
11096-82-5	Aroclor-1260	35	U
37324-23-5	Aroclor-1262	35	U
11100-14-4	Aroclor-1268	35	U

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4HZ9

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-005

Sample wt/vol: 15.3 (g/mL) g

Lab File ID: 036F3701

% Moisture: 21 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEK

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.8

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	* 2100 2400	EP
11096-82-5	Aroclor-1260	41	U
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

\* Transfer from B4HZ9 DL

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J00

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_

SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-006

Sample wt/vol: 15.1 (g/mL) g

Lab File ID: 037F3801

% Moisture: 17 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.3

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	860	EP
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

\*Transfer from B4J00 DL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J01

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-007

Sample wt/vol: 15.6 (g/mL) g

Lab File ID: 038F3901

% Moisture: 20 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.4

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	40	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	* 690 830	EP TN
11096-82-5	Aroclor-1260	40	U
37324-23-5	Aroclor-1262	40	U
11100-14-4	Aroclor-1268	40	U

\* Transfer from B4J01 DL

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J02

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-008

Sample wt/vol: 15.2 (g/mL) g

Lab File ID: 039F4001

% Moisture: 31 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.6

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	47	U
11104-28-2	Aroclor-1221	47	U
11141-16-5	Aroclor-1232	47	U
53469-21-9	Aroclor-1242	47	U
12672-29-6	Aroclor-1248	47	U
11097-69-1	Aroclor-1254	62000	EP
11096-82-5	Aroclor-1260	47	U
37324-23-5	Aroclor-1262	47	U
11100-14-4	Aroclor-1268	47	U

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J03

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.:            SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-009

Sample wt/vol: 15.2 (g/mL) g

Lab File ID: 040F4101

% Moisture: 32 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	48	U
11104-28-2	Aroclor-1221	48	U
11141-16-5	Aroclor-1232	48	U
53469-21-9	Aroclor-1242	48	U
12672-29-6	Aroclor-1248	48	U
11097-69-1	Aroclor-1254	* 4500057000	EP
11096-82-5	Aroclor-1260	48	U
37324-23-5	Aroclor-1262	48	U
11100-14-4	Aroclor-1268	48	U

\* Transfer from B4J03 DL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J04

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-010

Sample wt/vol: 15.7 (g/mL) g

Lab File ID: 041F4201

% Moisture: 20 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 6.9

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	* 15000 20000	EP
11096-82-5	Aroclor-1260	39	U
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U

\* Transfer from B4J04-DL

1H - FORM I ARO  
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J05

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-011

Sample wt/vol: 15.4 (g/mL) g

Lab File ID: 042F4301

% Moisture: 21 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	41	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	* 700 41	EP
37324-23-5	Aroclor-1262	41	U
11100-14-4	Aroclor-1268	41	U

\* Transfer from B4J0501

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J06

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15013-012

Sample wt/vol: 15.7 (g/mL) g

Lab File ID: 043F4401

% Moisture: 19 Decanted: (Y/N) N

Date Received: 12/14/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/01/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.2

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	39	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	* 870-970	BP6
11096-82-5	Aroclor-1260	* 720-930	EP-J
37324-23-5	Aroclor-1262	39	U
11100-14-4	Aroclor-1268	39	U
		39	U

\* Transfer from B4J06DL

1H - FORM I ARO  
AROCOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B4J07

Lab Name: Shealy Environmental Services, Inc.

Contract: EP-W-05-031

Lab Code: SHEALY Case No.: 37088

Mod. Ref No.: \_\_\_\_\_ SDG No.: B4HX9

Matrix: (SOIL/SED/WATER) Soil

Lab Sample ID: IL15025-001

Sample wt/vol: 15.2 (g/mL) g

Lab File ID: 010F1101

% Moisture: 23 Decanted: (Y/N) N

Date Received: 12/15/2007

Extraction: (Type) PFEX

Date Extracted: 12/22/2007

Concentrated Extract Volume: 5000.0 (uL)

Date Analyzed: 01/09/2008

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 2.0

Sulfur Cleanup: (Y/N) Y

Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/kg</u>	Q
12674-11-2	Aroclor-1016	420	U
11104-28-2	Aroclor-1221	420	U
11141-16-5	Aroclor-1232	420	U
53469-21-9	Aroclor-1242	420	U
12672-29-6	Aroclor-1248	420	U
11097-69-1	Aroclor-1254	420	U
11096-82-5	Aroclor-1260	33000	E
37324-23-5	Aroclor-1262	420	U
11100-14-4	Aroclor-1268	420	U

ATTACHMENT 1  
SOM01.2/Aroclors  
SOP NO. HW-37

Page 1 of 5

### Functional Guidelines for Evaluating Organic Analysis

CASE No.: 37088  
LABORATORY: SHEALY  
SAMPLER: W-RST

SDG No.: B4HR9 & B4HX9  
SITE: Cornell Dubilier  
ANALYSIS: PCB

### DATA ASSESSMENT

The current SOP HW-37 (Revision 1) August 2007, USEPA Region II Data Validation SOP for Statement of Work SOM01.2 for evaluating organic data have been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N"(presumptive evidence for the presence of the material), "U" (non-detect) or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's  
Signature:

George Karras  
George Karras

Date: January/ 19 /2008

Peer Reviewer's  
Signature:

Mamf Sheikh

Date: 01/ 22 /2008

Verified By: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/2008

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

SDG B4HR9, B4HX9: No problems found for this qualification.

2. SURROGATES

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

SDG B4HR9:

The following Aroclor samples have surrogate percent recoveries that are greater than 200%. Detected compounds are qualified J. Nondetected compounds are not qualified. Professional judgment is recommended for qualifying non-detected compounds.

Decachlorobiphenyl B4HS8  
Aroclor-1260

Tetrachloro-m-xylene B4HS8DL  
Aroclor-1260

The following Aroclor samples have surrogate percent recoveries which exceed the primary maximum criteria but are less than or equal to the expanded maximum criteria. Detected compounds are qualified J. Nondetected compounds are not qualified.

Decachlorobiphenyl B4HS8DL  
Aroclor-1260

Tetrachloro-m-xylene B4HS8  
Aroclor-1260

SDG B4HX9:

The following Aroclor samples have surrogate percent recoveries that are greater than 200%. Detected compounds are qualified J. Nondetected compounds are not qualified.

Decachlorobiphenyl B4HX9DL, B4HY1DL, B4HY2DL, B4HZ5DL, B4HZ7DL, B4HZ8DL, B4HZ9DL, B4J02DL, B4J03DL, B4J04DL, B4J07DL  
Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268

Tetrachloro-m-xylene B4HY1DL, B4HZ5DL, B4J03DL, B4J04DL

Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268

**ATTACHMENT 1**

**SOM01.2/Aroclors**

**SOP NO. HW-37**

**Page 3 of 5**

The following aroclor samples have surrogate percent recoveries which exceed 150% but are less than or equal to 200%. Detected compounds are qualified J. Nondetected compounds are not qualified.

Decachlorobiphenyl B4J01DL, B4J02DL, B4J05DL

Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268

Tetrachloro-m-xylene B4HZ5DL, B4J02DL

Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268

The following diluted aroclor samples have surrogate percent recoveries less than 10%. Detected and nondetected compounds are not qualified. Professional judgement is recommended for qualification of the data.

Tetrachloro-m-xylene B4HX9DL

Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268

**3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD**

**SDG B4HR9:**

The relative percent difference (RPD) between the following aroclor matrix spike and matrix spike duplicate recoveries is outside criteria. Detected compounds are qualified J. Nondetected compounds are not qualified.

Aroclor-1016 B4HT6MS, B4HT6MSD

**SDG B4HX9, B4HX9:** MS/MSD was not performed due to laboratory oversight.

**Laboratory Control Samples (LCS):**

The LCSs data provides information on the accuracy of the analytical method and laboratory performance. If LCS recoveries fell outside of the acceptable limits, qualifications were applied to the associated samples and compounds as shown below.

**SDG B4HR9:** No problems found for this qualification.

**4. BLANK CONTAMINATION:**

Quality assurance (QA) blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects U.

The following analytes in the sample shown were qualified with "U" for these reasons:

**A) Method blank contamination:**

**SDG B4HR9, B4HX9:** No problems found for this qualification.

**B) Field or rinse blank contamination:**

**C)**

Not Applicable.

**5. CALIBRATION:**

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

**A) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):**

For the PCB fraction, if %RSD exceeds 20% for all analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

For opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, if %D exceeds 15% for analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

For closing CCV, if %D exceeds 50% for all analytes and the two surrogates, qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

**SDG B4HR9:**

The following Aroclor samples are associated with an opening or closing CCV with % Difference exceeding criteria. Detected compounds are qualified J. Nondetected compounds are qualified UJ.

Aroclor-1260: B4HS0DL, B4HS5DL, B4HS6DL, B4HS7DL, B4HS8DL, B4HS9DL, B4HT0DL, B4HT1DL, B4HT2DL, B4HT3DL, B4HT4DL

**SDG B4HX9:**

The following aroclor samples are associated with an opening or closing CCV with % Difference exceeding criteria. Detected compounds are qualified J. Nondetected compounds are qualified UJ.

Aroclor-1260: B4HY1DL, B4HY2DL, B4HY3RE, B4HY4DL, B4HZ5DL, B4HZ6RE, B4HZ7DL, B4HZ8DL, B4HZ9DL, B4J00DL, B4J01DL, B4J02DL, B4J03DL, B4J04DL, B4J05DL

Aroclor-1254: ABLK26, ABLK27, B4HX9, B4HY0, B4HY4, B4HY5, B4HZ5, B4HZ6, B4HZ7, B4HZ8, B4HZ9, B4J00, B4J01, B4J06

**6. COMPOUND IDENTIFICATION:**

**SDG B4HR9:**

The following Aroclor samples have percent differences between analyte results in the range of 26-70%. Detected compounds are qualified J. Nondetected compounds are not qualified.

Aroclor-1260 B4HT6MS, B4HT6MSD

Aroclor-1254 B4HS4, B4HS5, B4HS5DL, B4HS6DL, B4HS7, B4HS8, B4HS8DL, B4HT4, B4HT4DL, B4HT5

Aroclor-1016 B4HT6MSD

The following Aroclor samples have percent differences between analyte results in the range of 71-100%.  
Detected compounds are qualified NJ. Nondetected compounds are not qualified.

Aroclor-1254 B4HS7DL

The following aroclor samples have percent differences between analyte results in the range of 101-200%.  
Detected compounds are qualified JN.

Aroclor-1254 B4HS0DL

**SDG B4HX9:**

The following Aroclor samples have percent differences between analyte results in the range of 26-70%.  
Detected compounds are qualified J.

Aroclor-1254: B4HX9, B4HY0, B4HY0DL, B4HY1, B4HY2DL, B4HY4, B4HY4DL, B4HZ7DL, B4HZ8,  
B4HZ8DL, B4HZ9, B4HZ9DL, B4J00DL, B4J06DL

Aroclor-1248 B4HX9, B4HY0, B4J06

The following Aroclor samples have percent differences between analyte results in the range of 71-100%.  
Detected compounds are qualified NJ. Nondetected compounds are not qualified.

Aroclor-1254: B4HX9DL, B4J01DL

The following Aroclor samples have percent differences between analyte results in the range of 101-200%. Detected compounds are qualified JN.

Aroclor-1254: B4HY5DL, B4J01

**A) PCB Fraction:**

**The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.**

**SDG B4HR9, B4HX9:** No problems found for this qualification.

7. **CONTRACT PROBLEMS NON-COMPLIANCE:** None

8. **FIELD DOCUMENTATION:**

9. **OTHER PROBLEMS:**

10. **This package contains re-extracted, re-analyzed or dilution runs. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.**

**SDG B4HX9:** B4HY1DL, B4HY2DL, B4HY3RE, B4HY4DL, B4HZ5DL, B4HZ7DL, B4HZ8DL, B4HZ9DL,  
B4J00DL, B4J01DL, B4J02DL, B4J03DL, B4J04DL, B4J05DL

**SDG B4HR9:** B4HS0DL, B4HS6DL, B4HS7DL, B4HS8DL, B4HS9DL, B4HT0DL, B4HT1DL, B4HT2DL,  
B4HT3DL, B4HT4DL, B4HS5DL

PCBs  
37088/B4HR9, B4HX9

SOP HW-37  
Revision 1  
August 2007

SOP NO. HW-37/Aroclor  
Validation of Data  
USEPA Contract Laboratory Program  
Statement of Work for Organic Analysis of Low/Medium  
Concentration of Aroclor Organic Compounds SOM01.2

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## INTRODUCTION

### Scope and Applicability

This SOP offers detailed guidance in evaluating laboratory data generated according to the method in the "USEPA Contract Laboratory Program Statement of Work for Organics Analysis Multi-Media, Multi-Concentration, SOM01.2, February 2007". The validation procedures and actions discussed in this document are based on the requirements set forth in the "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, July 2007". This document attempts to cover technical problems specific to low/Medium concentration of Aroclor compounds. Situations may arise where data limitations must be assessed based on the reviewer's own professional judgement.

In addition to technical requirements, contractual requirements may also be covered in this document. While it is important that instances of contract non-compliance be addressed in the Data Assessment, the technical criteria are always used to qualify the analytical data.

### Summary

To ensure a thorough evaluation of each result in a data case, the reviewer must complete the checklist within this SOP, answering specific questions while performing the prescribed "ACTIONS" in each section. Qualifiers (or flags) are applied to questionable or unusable results as instructed. The data qualifiers discussed in this document are as follows:

### Data Qualifiers

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

#### Lab Qualifiers:

- D - The positive value is the result of an analysis at a secondary dilution factor.
- B - The analyte is present in the associated method blank as well as in the sample. This qualifier has a different meaning when validating inorganic data.
- E - The concentration of this analyte exceeds the calibration range of the instrument.
- P - Pesticide/Aroclor target analytes when the % Difference between the analyte concentrations obtained from the two dissimilar GC columns is greater than 25%.

The reviewer must prepare a detailed data assessment to be submitted along with the completed SOP checklist. The Data Assessment must list all data qualifications, reasons for qualifications, instances of missing data and contract non-compliance.

#### Reviewer Qualifications:

Data reviewers must possess a working knowledge of the USEPA Statement of Work SOM01.2 and National Functional Guidelines mentioned above.

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USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

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YES NO N/A

PACKAGE COMPLETENESS AND DELIVERABLES

CASE NUMBER: 37088

LAB: Shealey

SITE NAME: Cornell Dutilleul

SDG No(s): B4HR9 B4HX9

1.0 Chain of Custody and Sampling Trip Reports

- 1.1 Are the Traffic Reports/Chain-of-Custody Records present for all samples? 11 — —

ACTION: If no, contact RSCC, or the TOPO to obtain replacement of missing or illegible copies from the lab.

- 1.2 Is the Sampling Trip Report present for all samples? 11 — —

ACTION: If no, contact either RSCC or ask the TOPO to obtain the necessary information from the prime contractor.

2.0 Data Completeness and Deliverables

- 2.1 Have any missing deliverables been received and added to the data package? — 11 —

ACTION: Contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the lab. If lab cannot provide them, note the effect on the review of the data package in the Contract Problems/Non-compliance section of the Data Assessment.

- 2.2 Was SMO/CLASS CCS checklist included with the package? 11 — —

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SOP HW-37/Aroclor, Revision 1

YES NO N/A

- 2.3 Are there any discrepancies between the Traffic Reports/Chain-of-Custody Records, and Sampling Trip Report?

— ☒ —

ACTION: If yes, contact the TOPO to obtain an explanation or resubmittal of any missing deliverables from the laboratory.

3.0 Cover Letter SDG Narrative

- 3.1 Is the SDG Narrative or Cover Letter Present?

☒ — —

- 3.2 Are case number, SDG number and contract number contained in the SDG Narrative or cover letter (see SOW, Exhibit B, section 2.5.1)?  
EPA sample numbers in the SDG, detailed documentation of any quality control, sample, shipment, and/or analytical problems encountered in processing the samples? Corrective action taken?

☒ — —

- 3.3 Does the Narrative contain the following information SOM01.1, page B-12, section 2.5.1)?  
column used, storage of samples, case#, SDG#, analytical problems, and discrepancies between field and lab weights.

☒ — —

- 3.5 Did the contractor record the temperature of the cooler on the Form DC-1, Item 9 - Cooler Temperature, and in the SDG Narrative?

☒ — —

- 3.6 Does the Case Narrative contain the "verbatim" statement (page B-12, section 2.5.1 of the SOM)?

☒ — —

ACTION: If "No", to any question in this section, contact the TOPO to obtain necessary resubmittals. If unavailable, document under the Contract Problems/Non-Compliance section of the Data Assessment.

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YES NO N/A

### 4.0 Data Validation Checklist

4.1 Check the package for the following (see SOM reporting requirements, section 2.1, page B-10):

a. Is the package paginated in ascending order starting from the SDG narrative?

☒ ☐ ☐

b. Are all forms and copies legible?

☒ ☐ ☐

c. Assembled in the order set forth in the SOW?

☒ ☐ ☐

d. All Aroclor Data present?

☒ ☐ ☐

### PART A: Low/Medium Aroclor Analyses

#### 1.0 Sample Conditions/Problems

1.1 Do the Traffic Reports/Chain-of-Custody Records, Sampling Trip Report or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?

☐ ☒ ☐

ACTION: If samples were not iced or the ice was melted upon arrival at the laboratory and the temperature of the cooler was  $> 10^{\circ}\text{C}$ , then flag all positive results with a "J" and all non-detects "UJ".

#### 2.0 Holding Times

2.1 Have any Aroclor technical holding times, determined from date of collection to date of analysis, been exceeded?

☐ ☒ ☐

2.2 Preservation: Aqueous and Non-aqueous samples must

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YES NO N/A

be cooled at  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

ACTION: Qualify sample results according to the following table.

## Holding Time Actions for Low/Medium Aroclor Analyses

Matrix	Preserved	Criteria	Action	
			Detected Associated Compounds	Non-Detected Associated Compounds
Aqueous	No	$\leq 7$ days (extraction) $< 40$ days (analysis)	J*	UJ*
	No	$> 7$ days (extraction) $> 40$ days (analysis)	J	UJ
	Yes	$\leq 7$ days (extraction) $\leq 40$ days (analysis)	No qualification	
	Yes	$> 7$ days (extraction) $> 40$ days (analysis)	J	UJ
	Yes/No	$> 28$ Days (extraction)	J	R
Non-aqueous	No	$\leq 14$ days (extraction) $\leq 40$ days (analysis)	J*	UJ*
	No	$> 14$ days (extraction) $> 40$ days (analysis)	J	UJ
	Yes	$\leq 14$ days (extraction) $\leq 40$ days (analysis)	No qualification	
	Yes	$> 14$ days (extraction) $> 40$ days (analysis)	J	UJ
	Yes/No	$> 28$ Days (extraction)	J	R

\* Only if cooler temperature exceeds  $10^{\circ}\text{C}$  (see ACTION in Section 1.1 above).  
No action required if temperature  $\leq 10^{\circ}\text{C}$ .

### 3.0 Surrogate Recovery (Form II ARO-1, Form II ARO-2, Form VIII ARO)

3.1 Are the Aroclor Recovery Summary Forms present?

☒ ☐ ☐

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YES NO N/A

ACTION: Contact the TOPO to obtain an explanation/resubmittal from the lab. If missing deliverables are unavailable, document the effect in the Data Assessment.

3.2 Were the two surrogates, tetrachloro-m-xylene (TCX) and decachlorobiphenyl (DCB) added to all samples, MS/MSD, LCS, blanks including standards?

14 — —

ACTION: If no, use professional judgment in qualifying data as missing surrogate analyte may not directly apply to target analytes.

3.3 Were outliers marked with an asterisk on Form II?

14 — —

ACTION: Circle all outliers with a red pencil.

If yes, were effected samples re-analyzed?

14 — —

3.4 The RTs of the surrogates in each mid-point Aroclor standards used for continuing calibration verification, all samples, including MS/MSD, LCS and all blanks must be within the calculated RT window. TCX must be within  $\pm 0.05$  minutes and DCB must be within  $\pm 0.10$  minutes of the mean retention time (RT) determined from the initial calibration and tabulated in Form VIII Pest.

Were any outliers marked with an asterisk on Form VIII ARO?

— 14 —

ACTION: Circle all outliers with a red pencil. If any Surrogate is outside the required limits, qualify their associated target compounds (See Table below) as follows:

## Surrogate Compound Recovery Action for Aroclors

Criteria	Action	
	Detected Target Compounds	Non-Detected Target Compounds
%R > 200%	J	No qualification
150% < %R ≤ 200%	J	No qualification
30% ≤ %R ≤ 150%	No qualification	
10% ≤ %R < 30%	J	UJ
%R < 10% (sample dilution not a factor)	J	R

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YES NO N/A

%R < 10% (sample dilution is a factor)	J	Use Professional Judgement
RT out of RT window	Use professional judgment	
RT within RT window	No qualification	

Note: Blank analysis having surrogates out of specification:

The reviewer must give special consideration to the validity of associated samples. Basic concern is whether the blank problems represent an isolated problem with the blank alone or whether there is a fundamental problem with the analytical process. For example, if one or more samples in the batch show acceptable surrogate recoveries, the reviewer may choose to consider the blank problem to be an isolated occurrence.

ACTION: Note in the Data Assessment under Contract Problems/ Non-Compliance if the Lab did not perform reanalysis and reviewer's judgment regarding blank problem.

3.5 Are there any transcription/calculation errors between raw data and Form IIs?

ACTION: If large errors exist, ask the TOPO to obtain an explanation/resubmittal from the lab, make any necessary corrections and note errors in the data assessment.

## 4.0 Matrix Spike/Matrix Spike Duplicate Recovery (Form III)

Note: Data for MS/MSD will not be present unless requested.

4.1 Are the MS/MSD Recovery Forms (Form III ARO) present?

4.2 Was the MS/MSD analyzed at the required frequency (once per SDG, or every 20 samples, whichever is more frequent)?

ACTION: If any MS/MSD data are missing, take action as specified in section 3.1 above.

ACTION: No action is taken on MS/MSD data alone. However, using professional judgement, the validator may use the MS and MSD results in conjunction with other QC criteria and determine the need for some qualification of the data. If Any MS/MSD recovery or RPD is out of specification, qualify data to include the consideration of the existence of interference in the raw data. Consideration include, but not limited to the following "Action":

Matrix Spike/Matrix Spike Duplicate Action for Aroclor

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YES NO N/A

Criteria	Action	
	Detected Spike Compounds	Non-detected Spike Compounds
%R or RPD > Upper Acceptance Limit	J	No qualification
20% ≤ %R < Lower Acceptance Limit	J	UJ
%R < 20%	J	Use professional judgement
Lower Acceptance Limit ≤ %R; RPD ≤ Upper Acceptance Limit	No qualification	

Note: If it can be determined that the results of the MS/MSD affects only the sample spiked, limit qualification to only this sample. However, use professional judgment when it is determined through the MS/MSD results that the laboratory is having systematic problem in the analysis of one or more analytes that affect all associated samples.

5.0 Blanks (Form IV)

5.1 Is the Aroclor Method Blank Summary (Form IV ARO) present for aqueous and soil samples? 14 — —

5.2 Frequency of Analysis: For the analysis of AROCLOR, has a method blank been analyzed for each SDG or every 20 samples, whichever is more frequent? 14 — —

ACTION: If any blank data are missing, take action as specified above in section 3.1. If blank data is not available, reject "R" all associated positive data. However, using professional judgement, the data reviewer may substitute field blank data for missing method blank data.

5.3 A separate Form IV should be present if part of an extraction batch required sulfur removal. In such cases some samples will be listed on two blank summary forms - once under the method blank, and once under the sulfur clean-up blank (PCBLK). Was this additional blank raw data and Form IV submitted when required? 14 — —

ACTION: If Form IV sulfur clean-up blank is missing, take action as specified in section 3.1 above.

5.4 Has a Aroclor instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence (minimum contract requirement)? 14 — —

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YES NO N/A

ACTION: If any blank data are missing, take action specified in Section 3.1.

5.5 Was the correct identification scheme used for all Aroclor blanks? (See page B-39, section 3.3.7.3 of SOM01.1 for further information)

ACTION: Contact the TOPO to obtain resubmittals or make the required corrections on the forms. Document in the Data Assessment under Contract Problems/Non-Compliance all corrections made by the validator.

5.6 Chromatography: Review the blank raw data chromatogram, quant. Reports and data system printout. Is the chromatographic performance (baseline stability) acceptable for each instrument?

ACTION: Use professional judgement to determine the effect on the data.

5.7 Are all detected hits for target compounds in method, and field blanks less than the CRQL?

ACTION: IF no, an explanation and laboratory's corrective actions must be addressed in the case SDG narrative. Contact TOPO to request from Lab. revised narrative and make a note in the Contract Problems/Non-Compliance section of the Data Assessment.

## 6.0 Contamination

NOTE: "Water blanks", "drill blanks", and distilled water blanks" are validated like any other sample, and are not used to qualify data. Do not confuse them with the other QC blanks discussed below.

6.1 Do any method/reagent or cleanup blanks contain positive hits for target Aroclor compounds with values greater than the CRQL for that analyte?

Note: The concentration of each target compound in the instrument blank must be less than the CRQL for that analyte.

ACTION: Make note in data assessment under Contract Problems/Non-Compliance if any blank contains hit above the CRQLs.

6.2 Do any instrument blanks contain positive Aroclor results with values greater than CRQLs?

ACTION: Take the action specified in section 6.1.

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YES NO N/A

6.3 Do any field/rinse blanks have positive Aroclor results? ☐ ☒ ☐

NOTE: All field blank results associated with a particular group of samples (may exceed one per case) must be used to qualify data. Blanks may not be qualified because of contamination in another blank. Field blanks must be qualified for system monitoring compound, instrument performance criteria, spectral or calibration QC problems.

ACTION: Follow the directions in the table below to qualify results due to contamination. Use the largest value from all the associated blanks. If any blanks are grossly contaminated, all associated sample data should be qualified unusable (R).

## Blank Action for Aroclor Analyses

Blank Type	Blank Result	Sample Result	Action for Samples
Method, Field, Sulfur Cleanup, Instrument	Detects	Not detected	No qualification required
	< CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	= CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL	No qualification required
	> CRQL	< CRQL	Report CRQL value with a U
		≥ CRQL and < blank contamination	Report concentration of sample with a U
		≥ CRQL and > blank contamination	No qualification required
	Gross contamination	Detects	Qualify results as unusable R

NOTE: Analytes qualified "U" for blank contamination are treated as "hits" when qualifying for calibration criteria.

Note: When applied as described in the table above, the contaminant concentration in the blank are multiplied by the sample dilution factor.

6.4 Are there field/rinse/equipment blanks associated with every sample? ☐ ☒ ☐

ACTION: Note in data assessment if there's no associated field/rinse/equipment blank.

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YES NO N/A

Exception: samples taken from a drinking water tap do not have associated field blanks.

## 7.0 Aroclor Initial and Continuing Calibration

7.1 Are the following Forms, chromatograms and data system printouts present?

- a.) Form VI ARO-1/Aroclor Initial Calibration (Multipoint)
- b.) Form VI ARO-2/Aroclor Initial Calibration (Multipoint)
- c.) Form VI ARO-3/Aroclor Initial Calibration (Singlepoint)
- d.) Form VII ARO/Aroclor Calibration Verification
- e.) Form VIII ARO/Aroclor Analytical Sequence
- f.) Form X ARO/Identification Summary for Multicomponent Analysis

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☒ ☐ ☐

## 7.2 Initial Calibration

7.2.1 Was the following contract required initial calibration sequence provided by the laboratory?

☒ ☐ ☐

Initial Calibration Sequence	
1.	Aroclor 1221 CS3 (400ng/ml)
2.	Aroclor 1232 CS3 (400 ng/ml)
3.	Aroclor 1242 CS3 (400 ng/ml)
4.	Aroclor 1248 CS3 (400 ng/ml)
5.	Aroclor 1254 CS3 (400 ng/ml)
6.	Aroclor 1262 CS3 (400 ng/ml)
7.	Aroclor 1268 CS3 (400 ng/ml)
8.	Aroclor1016/1260 (100 ng/ml) CS1
9.	Aroclor1016/1260 (200 ng/ml) CS1
10.	Aroclor1016/1260 (400 ng/ml) CS1
11.	Aroclor1016/1260 (800 ng/ml) CS1
12.	Aroclor1016/1260 (1600 ng/ml) CS1

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YES NO N/A

## 13. Instrument Blank

ACTION: If initial calibration is not performed or not performed in the proper sequence, notify the TOPO and make a note in the data assessment.

7.3 Are there any transcription/calculation errors between raw data and the Forms?   11  

ACTION: If large errors exist, take action specified in section 3.1 above.

### 7.4 Mean Retention Time (RT) and RT Window

Were the following mean RT and RT window met:   11  

a.) The mean RT of each of the three to five major peaks were determined from the five-point initial calibration for all Aroclors

b.) RT window was calculated as  $\pm 0.07$  for each of the three to five major peaks and  $\pm 0.05$  and  $\pm 0.10$  for the surrogates tetrachloro-m-xylene and decachlorobiphenyl, respectively.

ACTION: If no, follow the action as specified in section 3.1.

7.5 Was at least one chromatogram from each of the Aroclor standards yield peaks that give deflection between 50-100% of full scale?   11  

ACTION: IF no, take action as specified in section 3.1.

7.6 Was the mean Calibration Factor (CF) calculated for the three to five major peaks of each Aroclor, as well as for the surrogates, over the initial calibration range?   11  

7.7 Were the Percent Relative Standard Deviation (%RSD) of the Calibration Factor for the three to five major peaks < 20% of each of the Aroclor compounds and surrogates?   11  

ACTION: If no, take action as specified in the following Table.

### Initial Calibration Action for Aroclor Analyses

	Action
--	--------

Criteria

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YES NO N/A

	Detected Associated Compounds	Non-Detected Associated Compounds
Initial calibration is not performed or not performed in proper sequence	Use Professional Judgment and notify Contract Lab Program (CLP) Project Officer	
%RSD exceeds allowable limits *	J	UJ
%RSD within allowable limits *	No qualification	

\* %RSD < 20.0% for Aroclors and surrogates (tetrachloro-m-xylene and decachlorobiphenyl).

## 7.8 Continuing Calibration Verification (CCV) (Form VII)

Were the Absolute Retention Time (RT) for each Aroclor and surrogate in the mid-point concentration (CS3) of the Standard used for CCV must be within the RT window determined from the initial calibration?

7.9 For opening CCV, or closing CCV that is used as an opening CCV for the next 12-hour period, the Percent Difference (%D) between the CF of each of the three to five peaks used to identify an Aroclor and surrogates in the mid-point concentration (CS3) of the Aroclor standards and the CF from the initial calibration must be within ±15.0%.

7.10 For a closing CCV, the %D between the CF of each of the three to five peaks used to identify an Aroclor and surrogates in the mid-point concentration (CS3) of the Aroclor standards and the CF from the initial calibration must be within ±50.0%.

7.11 No more than 14 hours may elapse from the injection of the instrument Blank that begins an analytical sequence (opening CCV) and the injection of the last mid-point concentration (CS3) of the Aroclor standards that ends an analytical sequence (closing CCV).

7.12 No more than 12 hours may elapse from the injection of the instrument blank that begins an analytical sequence (opening CCV) and the injection of the last sample or blank that is part of the same analytical sequence.

Were sections 7.8 to 7.12 met?

11 ☒   

ACTION: If no, use the following table to qualify Aroclor data:

## Continuing Calibration Verification (CCV) Action for Aroclor Analyses

## STANDARD OPERATING PROCEDURE . . . . .

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

SOP HW-37/Aroclor, Revision 1

YES NO N/A

Criteria	Action	
	Detected Associated Compounds	Non-Detected Associated Compounds
RT out of RT Window	Use professional Judgment *	
Percent Difference not within limits $\pm 15\%$ as specified in section 7.9 above	J	UJ
Percent Difference not within limits $\pm 50\%$ as specified in section 7.10 above	J	UJ
Time elapsed is greater than acceptable limits as specified in section 7.11 & 7.12 above	R	
Percent Difference, time elapsed and RT are within acceptable limits	No qualification	

\* For non-detected target compounds in the affected samples, check to see if the sample chromatogram contain any peak that are close to the expected RT window of the Aroclor of interest.

If no peaks are present, consider the non-detected values to be valid and no qualification of the data is necessary.

If any peaks are present close to the expected RT window of the Aroclor of interest, qualify the non-detected values as presumptively present. "N".

For detected compounds in the affected samples, if the peaks are within the RT window, no qualification of the data is necessary. If the peaks are close to the expected RT window of the Aroclors of interest, the reviewer may take additional effort to determine if sample peaks represent the compound of interest.

For example, the reviewer can examine the data package for the presence of three or more standards containing the Aroclor of interest that were run within the analytical sequence during which the sample was analyzed. If three or more such standards are present, the RT window can be re-evaluated using the mean RT of the standards.

If the peaks in the affected sample fall within the revised window, qualify the detected Aroclor as "JN".

If the reviewer cannot do anything with the data to resolve the problem of concern, qualify all non-detects as unuseable "R".

# STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007  
SOP HW-37/Aroclor, Revision 1

YES NO N/A

## 8.0 Analytical Sequence Check (Form VIII-ARO)

- 8.1 Is Form VIII-Pest present and complete for each column and each period of analyses?

☒ ☐ ☐

ACTION: If no, take action as specified in section 3.1

- 8.2 Was the proper analytical sequence followed for each initial calibration and subsequent analyses, and all standards analyzed at the required frequency for each GC/ECD instrument used?

☒ ☐ ☐

ACTION: If no, use professional judgment to determine the severity of the effect on the data and qualify accordingly. Generally, the effect is negligible unless the sequence was grossly altered and/or the calibration was out of QC limits.

- 8.3 Are the surrogate retention time (RT) from the initial calibration for TCX and DCB provided on Form VIII-Pest?

☒ ☐ ☐

ACTION: If no, take action as specified in section 3.1

- 8.4 Was the asterisk (\*) applied to the RT of any blanks, samples, standards, MS/MSD, and LCS that did not meet the QC Limits of  $\pm 0.05$  minutes for TCX (tetrachloro-m-xylene) and  $\pm 0.10$  minutes for DCB (decachlorobiphenyl)?

☒ ☐ ☐

ACTION: If any data are missing, take action specified in 3.1 above.

If no, use professional judgment to determine the severity of the effect on the data and qualify accordingly. Document in the data assessment under Contract Problems/Non-Compliance.

## 9.0 Sulfuric Acid and Gel Permeation Chromatography (GPC) Cleanup Procedures

- 9.1 Was sulfuric acid added to all extracts?

☒ ☐ ☐

Note: Sulfuric acid cleanup is mandatory for all extracts

ACTION: If no, take action specified in section 3.1

- 9.2 Gel Permeation Chromatography (GPC)

## STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

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YES NO N/A

GPC is an optional cleanup procedure for both aqueous and non-aqueous samples that contain high molecular weight compounds that interfere with Aroclor analysis.

9.3 If GPC cleanup was performed on samples, GPC calibration is acceptable if the two UV traces meet the following requirements.

- a. Peaks must be observed and should be symmetrical for all compounds in the calibration solution.
- b. Corn oil and phthalate peaks should exhibit greater than 85% resolution.
- c. The phthalate and Methoxychlor peaks should exhibit greater than 85% resolution.
- d. Methoxychlor and perylene peaks should exhibit greater than 85% resolution.
- e. Perylene and sulfur peaks must be saturated and should exhibit greater than 90% baseline resolution.
- f. The RT shift is less than 5% between UV traces for bis(2-ethylhexylphthalate and perylene.

9.4 Were all above criteria met?

ACTION: If no, examine the raw data for the presence of high molecular weight contaminants. Examine the subsequent sample data for unusual peaks and use professional judgment in qualifying the data.

### 10.0 Laboratory Control Samples (LCSs)

10.1 LCSs provide information on the accuracy of the analytical method and laboratory performance.

#### Aroclor Laboratory Control Sample Recovery - Aqueous and Non-Aqueous

Compound	% Recovery QC Limits
Aroclor 1016	50 - 150
Aroclor 1260	50 - 150
Tetrachloro-m-xylene (surrogate)	30 - 150
Decachlorobiphenyl (surrogate)	30 - 150

# STANDARD OPERATING PROCEDURE

USEPA Region II

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Date: August 2007

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YES NO N/A

10.2 Were the above recoveries met?

☒ YES ☐ NO ☐ N/A

ACTION: If no, qualify the sample data as follows:

Criteria	ACTION	
	Detected Associated Compound	Non-Detected Associated Compound
%R > Upper Acceptance Limit	J	No qualification
%R < Lower Acceptance Limit	J	R
Lower Acceptance Limit < %R < Upper Acceptance Limit	No qualification	

## 11.0 Aroclor Identification (Form X ARO/Identification Summary for Multicomponent Analysis)

11.1 Is Form X (ARO) complete for every sample in which Aroclor was detected?

☒ YES ☐ NO ☐ N/A

ACTION: Take action as specified in section 3.1 above.

11.2 The identification of a Multi component Aroclor by GC method is based primarily on RT data and pattern recognition. Were the following requirements met:

☒ YES ☐ NO ☐ N/A

- A Minimum of 3 major peaks were selected for each Aroclor. If more than one Aroclor is observed in a sample, a peak common to other Aroclor(s) must not be used to quantitate other Aroclor. Lab must choose different peaks to quantitate each Aroclor.
- If a chromatogram is replotted electronically to meet these requirements, the scaling factor used must be displayed on the chromatogram, and both the initial chromatogram and the replotted chromatogram must be submitted in the data package.

# STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

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YES NO N/A

- c.) The Retention Time (RT) of both of the surrogates and reported target compounds must be within the calculated RT window of both columns.
- d.) When no analytes are identified in the sample, the chromatograms of the sample extract must use the same scaling factor used for the low-point standard of the initial calibration associated with those samples.
- e.) Chromatogram must display the largest peak of any Aroclor detected in the sample at less than full scale.
- f.) If an extract must be diluted, chromatograms must display Aroclor peaks between 25-100% of full scale.

ACTION: If retention times (RT) or peak apex cannot be verified, contact TOPO to obtain rescaled chromatograms from the lab.

If data reviewer identifies a peak in both GC columns that fall within the appropriate RT windows, but was reported as non-detect, the compound may be false negative. If necessary, contact TOPO to instruct laboratory to re-evaluate the chromatograms.

- 11.3 Are there any transcription/calculation errors in Form I and Form X ARO? \_\_\_ ☒ \_\_\_

ACTION: Take action as specified in section 3.1 above.

- 11.4 Are the RTs of Aroclor peaks within the established RT window for analyses on both columns? \_\_\_ ☒ \_\_\_

- 11.5 Was the GC/MS confirmation provided for Aroclor concentration > 10 ug/ml in final extract? \_\_\_ ☒ \_\_\_

NOTE: Laboratory is required to contact SMO to determine if GC/MS confirmation is required. Check the semivolatile TIC data for presence of Aroclors.

- 11.6 Is the per cent difference (%D) calculated for positive results on both columns < 25%? \_\_\_ ☒ \_\_\_

# STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

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YES NO N/A

Action: Reviewer must check columns for peak interferences for the positive hits. Qualify the Aroclor (s) according to the following Table:

## Action on Qualifying Positive Aroclor Results

Percent Differences	Qualifier
0 - 25%	None
26 - 70%	"J"
71 - 100%	"JN"
101 - 200% (No Peak Interferences)	"R"
101 - 200% (Interferences detected)*	"JN"
> 50% (Aroclor value < CRQL)**	"U"
> 200%	"R"

\* When interferences is detected on either column, qualify the data as "JN"

\*\* When the Aroclor value is below CRQL and %D > 50%, raise the value to CRQL and qualify "U", undetected.

## 12.0 Target Aroclor List (TCL)

12.1 Are the Aroclor Analysis Data Sheets (Form I ARO) present with required header information on each page for samples, MS/MSD (if required), method and instrument blanks (per column & analysis)?

12.2 Is the chromatographic performance acceptable with respect to baseline stability, full-scale attenuation, peak shape/resolution?

ACTION: If no, take action specified in section 3.1 above.

## 13.0 Compound Quantitation and Reported Detection Limits

## STANDARD OPERATING PROCEDURE

USEPA Region II  
Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007  
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YES NO N/A

- 13.1 Are there any transcription/calculation errors in the Form I results? Check at least two positive results. Were any errors found? 11 — —

ACTION: If errors were found, take action as specified in section 3.1 above.

- 13.2 Are the contract required quantitation limits (CRQL) adjusted to reflect sample dilution? 11 — —

ACTION: If errors exist, take action as specified in section 3.1 above.

ACTION: When a sample is required to be diluted, the lowest CRQL is used (unless a QC exceedance dictates the use of the higher CRQL from the diluted sample). Replace concentration which exceed the calibration range in the original analysis by crossing out the "E" value on the original Form I and substituting it with the result from the diluted sample. Specify which Form I to use. Use a red pencil and draw a red "X" across the entire page of all Form I's that should not be used, including those in the data summary package.

At the top or bottom of the Forms, write with red pencil, "DO Not Use".

Note: If the sample dilution factor (DF) is greater than 10, an additional 10 times more concentrated than the diluted sample extract must be analyzed and reported with the sample data. If the DF is less or equal to 10, but greater than 1, the results of the original undiluted analysis must also be reported (see SOM01.1/section 10.3.3.4/page D-44/ARO).

ACTION: IF the above requirement was not met, contact the TOPO to obtain an explanation/resubmittal from the lab and make a note in the Data Assessment under Contract Problems/Non-Compliance section.

- 13.3 For non-aqueous samples, were the percent moisture < 70%? 11 — —

Action: If the % moisture  $\geq 70.0\%$  and  $< 90.0\%$ , qualify detects as "J" and non-detects as approximated "UJ" If the Moisture  $\geq 90\%$ , qualify detects as "J" and non-detects as "R"

# STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

SOP HW-37/Aroclor, Revision 1

YES NO N/A

## 14.0 Field Duplicates

14.1 Were any field duplicates submitted for Aroclor analysis?

11 — —

ACTION: Compare the reported results for field duplicates and calculate the relative percent difference.

ACTION: Any gross variation between duplicate results must be addressed in the reviewer narrative. If large differences exist, contact the TOPO to confirm identification of field duplicates with the sampler.

## STANDARD OPERATING PROCEDURE

USEPA Region II  
Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007  
SOP HW-37/Aroclor, Revision 1

YES NO N/A

### Definitions

ARO - Aroclor  
CCS - contract compliance screening  
CF - Calibration Factor  
CLASS - Contract Laboratory Analytical Services Support  
CLP - Contract Laboratory Program  
CRQL - Contract Required Quantitation Limit  
GC/ECD - Gas Chromatography/Electron Capture Detector  
kg - kilogram  
µg - microgram  
l - liter  
ml - milliliter  
QC - quality control  
RAS - Routine Analytical Services  
RPD - Relative Percent Difference  
RRF - Relative Response Factor  
RRF - Average Relative Response Factor (from initial calibration)  
RRT - Relative Retention Time  
RSD - Relative Standard Deviation  
RT - Retention Time  
RSCC - Regional Sample Control Center  
SDG - Sample Delivery Group  
SOP - standard operating procedure  
SOW - Statement of Work  
TCL - Target Compound List  
TCLP - Toxicity Characteristics Leachate Procedure  
TIC - Tentatively Identified Compound  
TPO - Technical Project Officer  
VTSR - Validated Time of Sample Receipt  
TOPO - Task Order Project Officer

# STANDARD OPERATING PROCEDURE

USEPA Region II

Method: CLP/SOW, SOM01.2/Aroclor

Date: August 2007

SOP HW-37/Aroclor, Revision 1

YES NO N/A

## References

1. USEPA Contract Laboratory Program of Work for Organic Analysis Multi-Media, Multi-Concentration, SOW/CLP/SOM01.2, February 2007.
2. National Functional Guidelines for Superfund Organic Methods Data Review July 2007.

**Shealy Environmental Services, Inc.**

Contract Number: EPW05031

Date: 01/10/2008

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HAZ. WASTE SUPPORT SEC

**SDG Narrative**

Case 37088

SDG B4HR9

**EPA Sample Numbers**

EPA Sample Number	Aroclor Fraction	Dilution/ Reanalysis
B4HR9	Yes	No
B4HS0	Yes	Yes
B4HS1	Yes	No
B4HS2	Yes	No
B4HS3	Yes	No
B4HS4	Yes	No
B4HS5	Yes	Yes
B4HS6	Yes	Yes
B4HS7	Yes	Yes
B4HS8	Yes	Yes
B4HS9	Yes	Yes
B4HT0	Yes	Yes
B4HT1	Yes	Yes
B4HT2	Yes	Yes
B4HT3	Yes	Yes
B4HT4	Yes	Yes
B4HT5	Yes	No
B4HT6	Yes	No
B4HT6MS	Yes	No
B4HT6MSD	Yes	No
B4HT7	Yes	No
B4HT8	Yes	No

**Columns**Aroclor #1 DB-XLB 30m x 0.32mm x 0.50um  
Aroclor #2 DB-35MS 30m x 0.32mm x 0.25um**PEST/Aroclor Equation**

$$\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(V_i)(DF)(GPC)}{(CF)(V_i)(W_s)(D)}$$

Where

 $A_x$  is the response (peak area) of the compound to be measured. $CF$  is the mean calibration factor from the initial calibration (area/ng).

DF is the dilution factor.

GPC =  $V_{in}/V_{out}$  : GPC factor. $V_{in}$  is the volume of extract loaded onto GPC column. $V_{out}$  is the volume of extract collected after GPC cleanup. $V_i$  is volume of the concentrated extract in uL. (If no GPC cleanup is performed, then  $V_i = 1000uL$ . If GPC cleanup is performed, then  $V_i = V_{out}$ .) $V_i$  is the volume of the extract injected in uL. $W_s$  is the weight of sample extracted in g.

$$D = \frac{100 - \% \text{Moisture}}{100}$$

## Sample Receiving

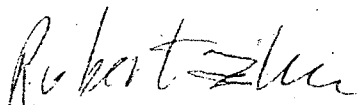
The cooler temperatures associated with these samples were 3.2 and 3.9°C.

## Aroclor Fraction

All samples in the SDG were extracted by the Automated Solvent Extractor (ASE). To ensure proper extraction, approximately 15 grams of sample were used for extraction. The final volume of the extract was brought to 5mL, instead of 10mL, so the CRQLs remain the same.

Due to sample matrix, the recoveries of the two surrogates for sample B4HS8 were high and outside the acceptance limits on the DB-XLB column. They are within limits on the DB-35MS column. No further re-analysis was performed.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.



Robert Zhu  
Technical Director

1/10/08

**Shealy Environmental Services, Inc.**

Contract Number: EPW05031

Date: 01/14/2008

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**SDG Narrative**

Case 37088

SDG B4HX9

**EPA Sample Numbers**

EPA Sample Number	Aroclor Fraction	Dilution/ Reanalysis
B4HX9	Yes	Yes
B4HY0	Yes	Yes
B4HY1	Yes	Yes
B4HY2	Yes	Yes
B4HY3	Yes	Yes
B4HY4	Yes	Yes
B4HY5	Yes	Yes
B4HZ5	Yes	Yes
B4HZ6	Yes	Yes
B4HZ7	Yes	Yes
B4HZ8	Yes	Yes
B4HZ9	Yes	Yes
B4J00	Yes	Yes
B4J01	Yes	Yes
B4J02	Yes	Yes
B4J03	Yes	Yes
B4J04	Yes	Yes
B4J05	Yes	Yes
B4J06	Yes	Yes
B4J07	Yes	Yes

**Columns**Aroclor #1 DB-XLB 30m x 0.32mm x 0.50um  
Aroclor #2 DB-35MS 30m x 0.32mm x 0.25um**PEST/Aroclor Equation**

$$\text{Soil sample concentration (ug/Kg)} = \frac{(A_x)(V_i)(DF)(GPC)}{(CF)(V_i)(W_s)(D)}$$

Where

 $A_x$  is the response (peak area) of the compound to be measured. $CF$  is the mean calibration factor from the initial calibration (area/ng). $DF$  is the dilution factor. $GPC = V_{in}/V_{out}$  : GPC factor. $V_{in}$  is the volume of extract loaded onto GPC column. $V_{out}$  is the volume of extract collected after GPC cleanup. $V_i$  is volume of the concentrated extract in uL. (If no GPC cleanup is performed, then  $V_i = 1000uL$ . If GPC cleanup is performed, then  $V_i = V_{out}$ .) $V_i$  is the volume of the extract injected in uL. $W_s$  is the weight of sample extracted in g..

$$D = \frac{100 - \% \text{Moisture}}{100}$$

### Sample Receiving

The cooler temperatures associated with these samples were 3.9, 5.0, and 5.1°C.

The airbill number 861728796799 listed on the TR/COC, for the samples received on December 15, 2007, is incorrect. The correct airbill number is 861728796766.

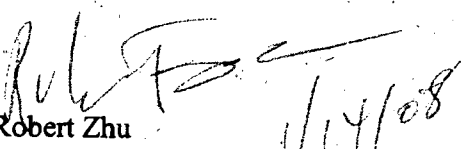
### Aroclor Fraction

All samples in the SDG were extracted by the Automated Solvent Extractor (ASE). To ensure proper extraction, approximately 15 grams of sample were used for extraction. The final volume of the extract was brought to 5mL, instead of 10mL, so the CRQLs remain the same.

No MS/MSD was performed for this SDG due to laboratory oversight.

A manual integration was performed on Decachlorobiphenyl (DCB) for several standards on DB-35MS column due to elevated baseline.

I certify that this Sample Data Package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

  
Robert Zhu  
Technical Director



Contract Laboratory Program

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## Sample Delivery Group (SDG) Cover Sheet

SDG Number: B4HR9

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37088

Analysis Price: \_\_\_\_\_

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

### EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4HR9	7) B4HS5	13) B4HT1	19) B4HT7
2) B4HS0	8) B4HS6	14) B4HT2	20) B4HT8
3) B4HS1	9) B4HS7	15) B4HT3	21) N/A
4) B4HS2	10) B4HS8	16) B4HT4	22) N/A
5) B4HS3	11) B4HS9	17) B4HT5	23) N/A
6) B4HS4	12) B4HT0	18) B4HT6	24) N/A

B4HR9

First Sample in SDG

B4HT8

Last Sample in SDG

12/13/07

First Sample Receipt Date

12/13/07

Last Sample Receipt Date

**Note:** There are a maximum of 20 field samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: *gulummasingh*

Date: 12/20/07



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Sample Delivery Group (SDG)  
Cover Sheet

SDG Number: B4HX9

Laboratory Name: Shealy Environmental

Laboratory Code: SHEALY

Contract No.: EPW05031

Case No.: 37088

Analysis Price: \_\_\_\_\_

SDG Turnaround: 21-DAY

Modified Analysis (if applicable): NO

Modification Reference No.: N/A

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) B4HX9	7) B4HY5	13) B4J00	19) B4J06
2) B4HY0	8) B4HZ5	14) B4J01	20) B4J07
3) B4HY1	9) B4HZ6	15) B4J02	21) N/A
4) B4HY2	10) B4HZ7	16) B4J03	22) N/A
5) B4HY3	11) B4HZ8	17) B4J04	23) N/A
6) B4HY4	12) B4HZ9	18) B4J05	24) N/A

B4HX9

First Sample in SDG

B4J07

Last Sample in SDG

12/13/07

First Sample Receipt Date

12/15/07

Last Sample Receipt Date

**Note:** There are a maximum of 20 **field** samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC Records to this form in alphanumeric order (the order listed above on this form).

Signature: *Julia Mammone*

Date: 12/20/07